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ABSTRACT

This interim report describes the development of program implementation and cost studies for Year II of the process evaluation of Project Developmental Continuity (PDC), a Head Start demonstration program aimed at providing educational and developmental continuity between children's Head Start and primary school experiences. Specific areas focused on in the report are: (1) assessment of the program implementation at each site; (2) analysis of the factors affecting implementation and identification of hypotheses relating levels of implementation with local or social characteristics; and (3) assessment of program costs. Chapter I presents an overview of the PDC evaluation and the purpose of Interim Report IV. Chapter II outlines the overall design of the Implementation Study and includes a summary of data collection activities for the year 1976. Chapter III contains a description of the development of implementation assessment instruments. Results of a field test of data collection and analysis instruments conducted in Spring '76 are discussed and revisions are suggested. Chapter IV reports progress in identifying local factors, events or characteristics which shape or determine the levels of program implementation. A preliminary list of hypotheses based on the analysis of factors enhancing or retarding implementation is derived for evaluation in Year III. Chapter V presents the design and preliminary result of the cost analysis. Tables and charts are included. (Author/CM)

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# Project Developmental Continuity Evaluation

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## Development of Implementation and Cost Studies

**Interim Report IV, Volume 2** **August 1976**

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# A PROCESS EVALUATION OF PROJECT DEVELOPMENTAL CONTINUITY
# INTERIM REPORT IV, VOLUME 2:

# DEVELOPMENT OF THE IMPLEMENTATION AND COST STUDIES

August 1976


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Table of Contents


| | | Page |
|---|---|---|
| I. | INTRODUCTION | 1 |
| | An Overview of Project Developmental Continuity (PDC) | 1 |
| | Purpose of the PDC Evaluation | 3 |
| | Purpose of this Report | 4 |
| II. | IMPLEMENTATION STUDY DESIGN | 5 |
| | Research Questions | 5 |
| | Overview of the Design | 6 |
| | Task 1: Identification of Variables | 8 |
| | Identifying Implementation Variables (Steps 1-5) | 10 |
| | Identifying Hypotheses-Releated Variables (Steps 6-9) | 16 |
| | Identifying Descriptive Variables (Steps 10-13) | 18 |
| | Task 2: Data Collection | 18 |
| | Task 3: Data Analysis | 25 |
| | Organizing the Data (Step 1) | 25 |
| | Analyzing the Data (Steps 2-6) | 29 |
| | Task 4: Report Production | 32 |
| III. | DEVELOPMENT OF IMPLEMENTATION ASSESSMENT INSTRUMENTS | 35 |
| | Purposes of Spring 1976 Field Test | 35 |
| | Field Test Procedures | 37 |
| | Sampling | 37 |
| | Instrument Design | 37 |
| | Interview Procedures | 38 |
| | Rating Procedures | 38 |
| | Data Analysis Procedures | 39 |
| | Field Test Results and Proposed Instrument Revisions | 40 |

Page

Was the Data Collection Strategy Suitable for Collecting Information Needed to Complete the IRI? . . . . . 40

Could Evaluation Staff Assess Implementation Using the IRI? . . . . . 45

How Well Does the IRI Measure Program Implementation?. . . . . 47

Summary and Conclusions . . . . . 50

IV. INTERIM ANALYSIS OF FACTORS ENHANCING OR RETARDING IMPLEMENTATION. . . . . 59

Method. . . . . 61

Sources of Factors and Hypotheses . . . . . 61

Reviewing and Evaluating Hypotheses . . . . . 63

Interim Analyses and Hypotheses . . . . . 65

The Nature and Interpretation of the PDC Guidelines . . . . . 66

The Educational and Community Context . . . . . 70

Circumstances and Events Surrounding the Introduction of PDC. . . . . 73

Staffing Characteristics. . . . . 83

Features of Program Organization. . . . . 88

The Role of OCD and the Evaluation Contractor . . 94

Conclusion. . . . . 96

V. COST STUDY INTERIM REPORT . . . . . 97

Approach and Methodology for Experimental Sites . . 98

Standard Cost Data Collection and Reporting . . . 99

Standard Definitions. . . . . 99

TASK 1--Review OCD Requirements . . . . . .100

TASK 2--Design the Cost Collection System . . . .100

TASK 3--Field Test Design . . . . . .100

TASK 4--Finalize Cost Collection Manual and Instruments. . . . . .102

Page

TASK 5--Train DA Cost Specialist Staff. . . . . .102

TASK 6--Visit Sites for Orientation, Training and Implementation of the Cost System. . . . . .102

TASK 7--Review of Quarterly Reporting . . . . . .102

TASK 8--Train DA Cost Data Specialists. . . . . .102

TASK 9--Implement Cost Data Collection. . . . . .103

TASK 10--Review, Summarize, and Report Data . . .103

Comparison Sites Cost Study Approach and Methodology. . . . . .105

Issues in the Comparison Cost Study . . . . . .105

Proposed Methodology for Comparison Group Cost Study. . . . . .107

Results of Trial Six-Month Data Collection. . . . .110

Examination of Data . . . . . .110

Preliminary Six-Month Findings. . . . . .112

VI. CONCLUSIONS . . . . . .117

Status of the Implementation Study. . . . . .117

Status of the Cost Study. . . . . .118

Implementation Hypotheses to be Evaluated in Year III . . . . . .119

REFERENCES. . . . . .125

APPENDIX A (Bound Separately): Implementation Rating Instrument

APPENDIX B: Proposed Definitions for Terms Used in the IRI

I

# INTRODUCTION

## An Overview of Project Developmental Continuity (PDC)

The Office of Child Development originated Project Developmental Continuity (PDC) in 1974 as a Head Start demonstration program "aimed at promoting greater continuity of education and comprehensive child development services for children as they make the transition from preschool to school." The single most important effect of this undertaking, it is hoped, will be to enhance the social competence of the children served--that is, to increase their everyday effectiveness in dealing with their environment (at school, at home, in the community, and in society).

As part of the overall Head Start Improvement and Innovation effort, PDC emphasizes the involvement of administrators, classroom staff, and parents in formulating educational goals and developing a comprehensive curriculum. The object of this effort is to ensure that children receive continuous individualized attention as they progress from Head Start through the early primary grades. Existing discontinuities between Head Start and elementary school experiences will be reduced, if the program is successful, by PDC mechanisms which encourage communication and mutual decision-making among preschool and elementary school teachers, administrators, and parents.

Two program models provide alternative ways of establishing the administrative structure for continuity. In the Preschool-School Linkages approach, administratively separate Head Start and elementary programs are brought together by the device of a PDC Council, whose membership includes teachers, parents, and administrators from both organizations. In the Early Childhood Schools approach, Head Start and elementary programs are combined both administratively, by the Council, and physically, in the same building, creating a new institution. In both approaches a qualitatively different program is expected to emerge as a result of the Head Start-elementary school cooperation.

Continuity is expected to be established in two contexts: that of the individual child and that of the school structure. In the first context, continuity means, for example, that a child should not have to have his or her personal nature and needs rediscovered each year as he or she moves from one grade to the next; instead the child should become a more and more fully recognized member of the school "family" as time passes. In the context of school structure, continuity implies cooperative pursuit of common goals, and this involves articulation of philosophies and methods in all the various areas of school enterprise. It is expected that structural continuity will contribute directly to continuity in the attention given to individual children.

School organizations at fifteen sites around the country received OCD funding during 1974-1975 (Program Year I) to design and plan implementation of the seven prescribed components of PDC. The components focus on:

- Administration: administrative coordination between and within Head Start and elementary school;
- Education: coordination of curriculum approaches and educational goals;
- Training: preservice and inservice teacher training and childrearing training for parents;
- Developmental/Support Services: comprehensive services (medical, nutritional, and social) to children and families;
- Parent Involvement: parent participation in policy-making, home-school activities, and classroom visits or volunteering;
- Services for the Handicapped: services for handicapped children and children with learning disabilities;
- Bilingual/Bicultural and Multicultural Education: programs for bilingual/bicultural or multicultural children.

During Year II, 1975-1976, fourteen sites (one withdrew voluntarily), comprising a total of 42 Head Start centers and elementary schools, implemented PDC according to the plans they drew up during Year I, tested their adaptations of the program and made adjustments where necessary. At the end of Year II another site dropped out of the program.

In Year III, 1976-1977, PDC is expected to be in mature form at the participating sites, and a decision will be made to maintain or modify OCD support for the entire demonstration program. The decision will be based in large part on consideration of the feasibility of evaluating PDC's effects on children's development over a long term. If the program is continued, it will be for a five-year period, from 1976 to 1981, during which its effects will be observed as the children progress from Head Start through grade 3.

## Purpose of the PDC Evaluation

The purpose of the PDC evaluation is to aid the Office of Child Development in the development of effective programs for early childhood education. It attempts to do this by documenting and analyzing the process of program development and implementation and by evaluating program outcomes, or the impact of the program on the social competence of children, on teachers and parents, and on the institutions involved in the programs.

The process evaluation includes:

- Descriptive data on the process of program planning, development and implementation at each site;
- Assessment of the degree to which implementation occurs;
- Assessment of program costs;
- Analysis of compliance with Head Start performance standards and PDC guidelines (Year I only);
- Formulation of hypotheses relating levels of implementation with the process of program planning and development.

The outcome or impact evaluation includes assessment of:

- Child development outcomes ("social competence")[1];
- Impact on PDC staff, teachers and administrators;

---

[1]Social competence is defined by the Office of Child Development as the child's "everyday effectiveness in dealing with his environment and responsibilities in school and life."

- Changes in parent perceptions and attitudes;
- Changes in the institutions and their relationships.

Although the evaluation is concerned with both the implementation process and outcomes of the program, during the first two years the emphasis was clearly on process. Even with the extensive testing of children carried out in the third year, the predominant flavor of the three-year effort is that of a process evaluation that analyzes relationships between process and implementation status, and increases the potential for explaining implementation successes and failures. A major impact evaluation study, if feasible, would be undertaken during the four years following this study, when outcomes can be assessed longitudinally as children proceed through the elementary grades.

## Purpose of this Report

This interim report describes progress in three areas of the process evaluation:

- the assessment of programs' implementation;
- the analysis of factors affecting program implementation and identification of hypotheses relating levels of implementation with local organizational or social characteristics;
- the assessment of program costs.

The overall design of the Implementation Study, described in the last interim report, is outlined in Chapter II, along with a summary of data collection activities for the current year. Chapter III contains a description of the work done to develop instruments for assessing the degree to which each program has been implemented. The results of a field test of the data collection and analysis instruments conducted this spring are discussed, and revisions suggested by this experience are described. Chapter IV reports progress in identifying the local factors, events, or characteristics which shape or determine the levels of program implementation. From this discussion, and a review of the relevant literature. a preliminary list of hypotheses is derived for evaluation in Year III when systematic implementation data will be collected. Chapter V contains the results from Program Year II of the cost analysis.

II

# IMPLEMENTATION STUDY DESIGN

## Research Questions

The implementation study is designed to answer five questions:

- *What is the nature of the PDC program at each site?*
- *To what extent has each program implemented the implementation year guidelines for each component?*
- *What trends are there across sites with respect to levels of implementation?*
- *What factors have shaped or affected the implementation of PDC at each site?*
- *What patterns are there across sites with respect to the factors affecting or shaping the implementation of PDC?*

Conclusions from the study about relationships between program processes and implementation levels will be necessarily tentative due to the small number of sites. It will be possible, however, to generate a plausible list of testable assertions about the process of implementation which can then be tested more fully in future empirical studies involving a larger number of sites. While tentative, these hypotheses can nonetheless be of use to those at OCD who must design and supervise the implementation of programs of educational change.

Four principal products are anticipated from the study:

- Individual reports for each site which describe in detail the manner in which OCD guidelines have been interpreted and implemented locally.

- Systematic assessments of the implementation levels at each site relative to the OCD guidelines, along with analyses of trends found among these assessments across sites.

- Hypotheses, which can be tested in later studies, that posit relationships between program organizational or process variables and assessed implementation levels.

- Tentative statements about the process and organizational factors which appear to determine the success or failure of PDC implementation (the "lessons" of PDC), reported in a format both accessible and useful to program designers.

A fifth product, a report on the relationship between implementation levels and measured program effects, will be produced at the end of Year III in conjunction with the Impact Study.

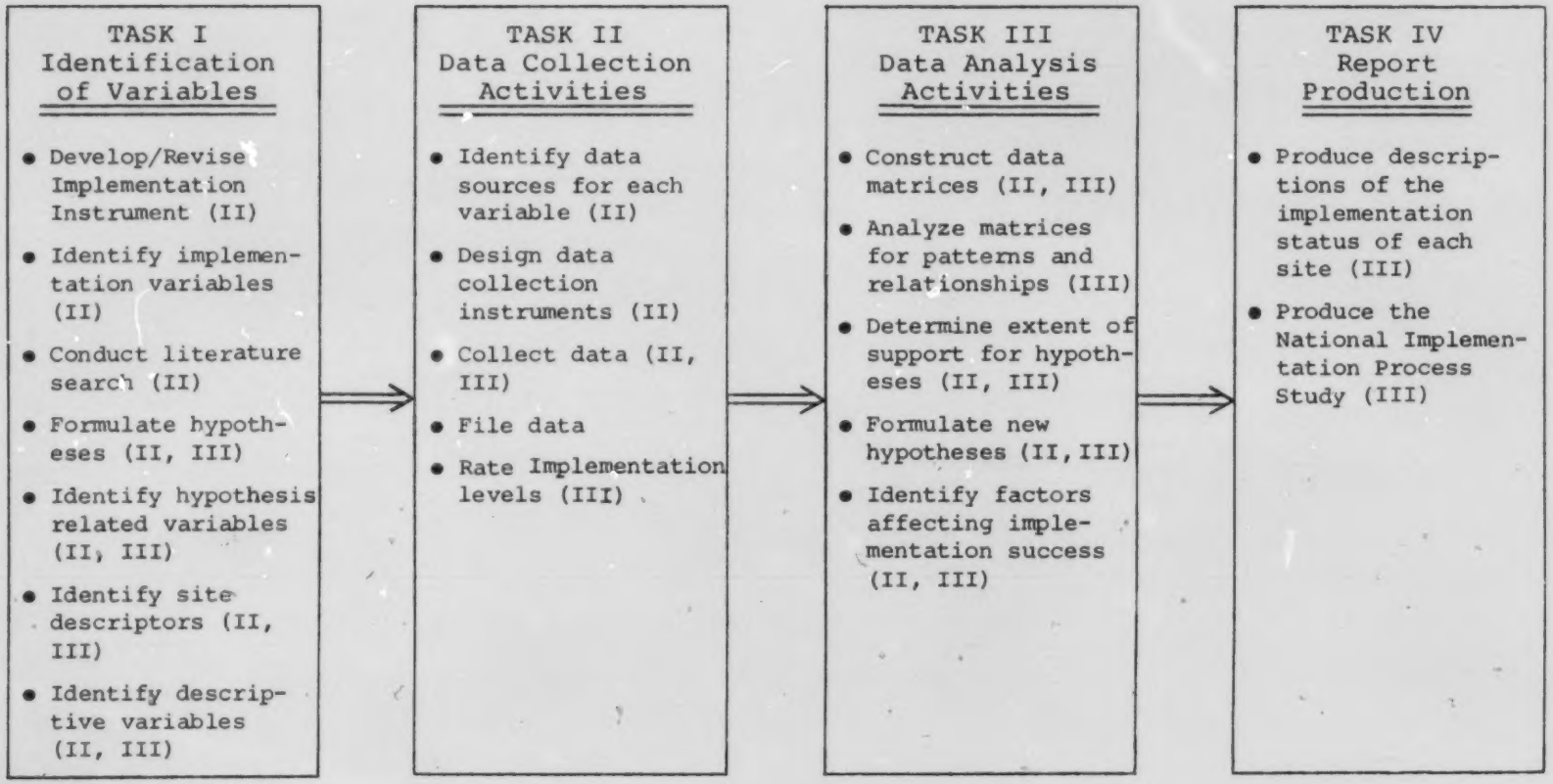
## Overview of the Design

The study outlined in this chapter is a two-year effort to develop procedures for answering the research questions outlined above. This chapter is organized according to the four types of tasks to be performed (see Figure 1):

- Identification of variables. The creation of a variable list was a major task for the implementation study in Program Year II. This list defines the categories of information to be collected from each site in order to rate implementation levels, to evaluate explanatory hypotheses, and to produce descriptions of each PDC program. The tasks in creating this list were a) to define the criteria by which implementation will be rated, b) to formulate a list of hypotheses to explain levels of implementation, and then c) to identify additional information needed from sites in order to describe them adequately. This list has now been revised for Year III based upon the field test of instruments conducted this spring.

Figure 1

Implementation Study Activities


TASK I
Identification of Variables
• Develop/Revise Implementation Instrument (II)
• Identify implementation variables (II)
• Conduct literature search (II)
• Formulate hypotheses (II, III)
• Identify hypothesis related variables (II, III)
• Identify site descriptors (II, III)
• Identify descriptive variables (II, III)
TASK II
Data Collection Activities
• Identify data sources for each variable (II)
• Design data collection instruments (II)
• Collect data (II, III)
• File data
• Rate Implementation levels (III)
TASK III
Data Analysis Activities
• Construct data matrices (II, III)
• Analyze matrices for patterns and relationships (III)
• Determine extent of support for hypotheses (II, III)
• Formulate new hypotheses (II, III)
• Identify factors affecting implementation success (II, III)
TASK IV
Report Production
• Produce descriptions of the implementation status of each site (III)
• Produce the National Implementation Process Study (III)
Operations
Mandatory flows

Roman numerals indicate the program years in which the activities will occur.

- Data collection. Data have been collected regularly from sites during the study and will continue to be collected in Year III. Data collection tasks include, a) the selection of collection strategies suitable for each variable, b) the design of data collection instruments, c) actually collecting data from the sites, and, d) using the data to rate implementation levels of each site.

- Data analysis. The data analysis tasks are a) to plan efficient strategies for organizing and processing data, b) to design data analysis procedures appropriate for answering the basic research questions, and c) to actually perform the data analysis.

- Report production. Two reports will be produced at the end of Year III of the study: an implementation status report for each site, containing detailed descriptions of each program's implementation status; and a national implementation process study report, containing implementation ratings and hypotheses about factors affecting the levels of implementation.

## Task 1: Identification of Variables

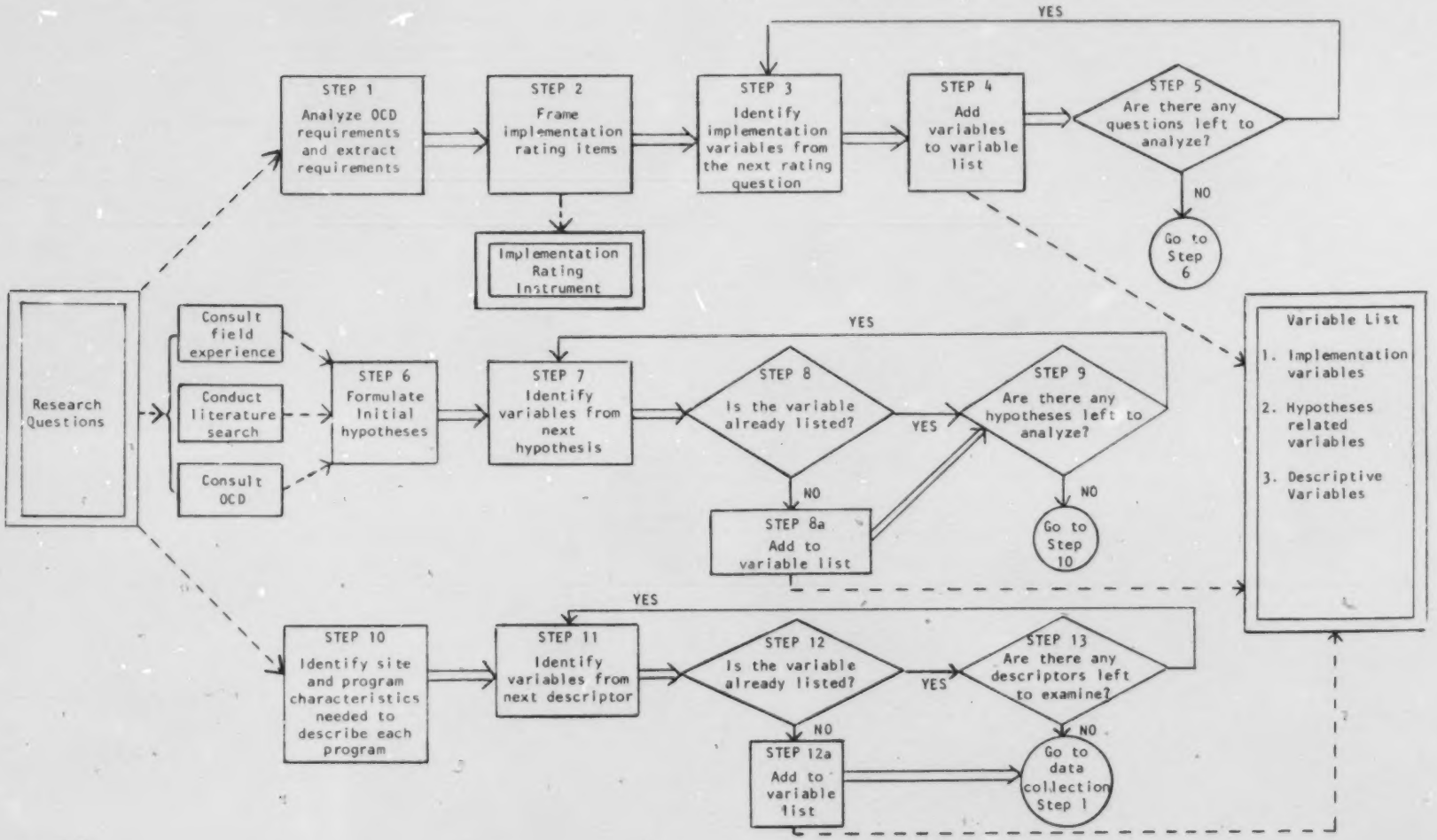
While an objective for the study is to learn as much as possible about the processes of implementation at each site, some descriptive and analytic framework is necessary if comparisons across sites are to be obtained. The initial design task for the implementation study, then, is to construct this framework by identifying the categories of information to be collected at all sites. The steps in this process of variable identification, represented schematically in Figure 2, were completed in the fall of Year II; the list has now been revised following the spring field test of instruments. Three types of variables were included on the list:

- implementation variables which must be measured in order to assess the degree to which a program has implemented the PDC guidelines;

- hypotheses-related variables which must be measured in order to determine whether preliminary hypotheses relating implementation levels with site processes and characteristics are supported;

Figure 2

Task 1:
Identification Process for Variables



- descriptive variables which, in addition to the implementation and hypotheses variables, must be measured in order to produce an adequate description of PDC at each site.

Implementation variables were derived first from the guidelines by constructing an implementation rating instrument and extracting variables from it (Steps 1-5 in Figure 2). Hypotheses variables are generated from a list of hypotheses developed by staff from field experience, a literature search, and consultations with OCD (Steps 6-9). Descriptive variables were derived by examining the anticipated needs for description of sites and determining which of these variables are not already on the list (Steps 10-13). These steps are described more fully below.

## Identifying Implementation Variables (Steps 1-5)

STEP 1: Analyze guidelines and extract requirements. The PDC Implementation Year Guidelines provided the source for implementation variables. In this first step toward operationalizing the guidelines, the document was analyzed and individual statements of program requirements extracted. In the guidelines, program requirements are often imbedded among program suggestions or clarifications. The following required element taken from the education component guidelines is an example:

> *The curriculum approach must facilitate individualized instruction. A diagnostic and evaluative system must be utilized to implement this individualized approach.*
>
> *This system should facilitate individualized instruction by enabling the teacher to pinpoint the developmental level of each child in the various curriculum areas. The teacher should then develop an instructional program for each child based upon the child's diagnosed strengths and weaknesses.*
>
> *The individualized program might provide opportunities for children to spend time in other classrooms, with younger or older children, in order to meet their own specific developmental needs.*

Assuming that "must" here is synonymous with "should," and that these are different from "might," four program requirements and one optional program element can be extracted from this single "required element:"

Requirements

1. The curriculum approach must facilitate individualized instruction.

2. A diagnostic and evaluative system must be utilized to implement the individualized approach.

3. This diagnostic and evaluative system should facilitate individualized instruction by enabling the teacher to pinpoint the developmental level of each child in the various curriculum areas.

4. The teacher should then develop an instructional program for each child based upon the child's diagnosed strengths and weaknesses.

Optional Program Feature

The individualized program might provide opportunities for children to spend time in other classrooms, with younger or older children, in order to meet their own specific developmental needs.

All basic principles and required elements in the guidelines were analyzed in this manner and discrete requirements (i.e., "must" and "should" statements) extracted and listed for each component. All nonredundant "must" and "should" statements were included at this point in phrasings as close as possible to the original, without regard to their potential for being operationalized. The objective at this point in the analysis was to identify the requirements, not to interpret or operationalize them.

STEP 2: Frame implementation rating items. Once a list of PDC program requirements had been identified, the next step in the design sequence was to devise a procedure for assessing systematically the degree to which sites have implemented each requirement. The product of this step was the Implementation Rating Instrument (IRI), a battery of rating scales to be applied to the data from each site.

By design, the guidelines were only to provide a framework within which each site could plan its own program, rather than an actual blueprint.

> *Sites may design locally appropriate methods or activities within each component area, provided that the basic principles are addressed and the required elements included. Regardless of the strategies decided upon for full component coverage, the total plan must be suitable to the particular needs of the locale, and must be satisfactory to the community. Local ethnic, cultural and language characteristics must be taken into account.* (PDC Guidelines for the Implementation Year, page 8)

In designing procedures for assessing levels of implementation, then, it was important not to impose more structure or specificity on programs than the guidelines intended. Therefore, if the guidelines only stated that programs must have a diagnostic and evaluative system for identifying the educational needs of individual children, without specifying features of that system, no features could be imposed in assessing implementation.

Sites could be differentiated, however, by aspects of required elements' implementation--regardless of how an element was interpreted locally. Three such aspects, or dimensions, were selected for this purpose, in the initial version of the IRI:

- The extent of implementation: the proportion of the target population for a required element who are actually affected by that element's implementation, or the frequency with which a required event or activity occurs.
- The duration of implementation: the amount of time that has elapsed since implementation of a particular required element began.
- The effectiveness of the implemented element, as perceived by individuals from the element's target population.

By applying these dimensions to each extracted requirement, a series of questions were derived which define the information needed from a site in order to assess implementation. For example, the four extracted requirements illustrated above, when subjected to this analysis, produced the following questions:

Extent of Implementation

1. Have strategies been developed at the (Head Start/elementary) level to facilitate individualized instruction?

2. Have strategies been implemented at the (Head Start/elementary) level to facilitate individualized instruction?

3. Has a common PDC diagnostic system been established to identify the educational needs of individual children from Head Start through third grade?

4. In how many (Head Start/elementary) classrooms has the diagnostic system to identify the educational needs of individual children been implemented?

5. On how many (Head Start/elementary) children has the diagnostic system been used?

6. How many (Head Start/elementary) children have had instructional programs developed for them based on their diagnosed strengths and weaknesses?

Duration of Implementation

7. When did implementation of the diagnostic and evaluative system begin at the (Head Start/elementary) level?

Effectiveness of Implementation

8. How many PDC (Head Start/elementary) teachers said that the PDC diagnostic and evaluative system used this year had been effective in identifying the educational needs of their children.

Extracted requirements from Step 1 for which questions such as these could not be formulated were omitted at this point from the study because they could not be operationalized for assessment.

Having identified the dimensions and categories for assessing implementation levels, a series of four-point rating scales were next created to insure a consistent framework for interpreting answers to the questions. For example, the three scales illustrated below were generated from questions 1-2, 5, and 8, respectively, in the above example.

Extent of Implementation

A PDC diagnostic and evaluative system to identify the educational needs of individual children

a) Has not been developed or selected.
b) Has been developed or selected, but is not operational.
c) Has been developed or selected and is operational at the Head Start level or elementary level, but not at both levels.
d) Has been developed or selected and is operational at both the Head Start and the elementary school levels.
e) Data insufficient for rating.

The PDC diagnostic assessment and evaluation system

a) Has not been implemented in at least one PDC Head Start classroom and one PDC elementary classroom.
b) Has been used with less than 25% of the children in the PDC Head Start program and with less than 25% of the children in the PDC elementary program.
c) Has been used with more than 25% of the children in both the PDC Head Start program and the PDC elementary program, but with less than 75% of the children in one of the two programs.
d) Has been used with more than 75% of the children in both the PDC Head Start and elementary programs.
e) Data insufficient for rating.

continued:

Effectiveness of Implementation

What percentage of the PDC Head Start teachers said that the PDC diagnostic assessment and evaluative system used this year had been effective in identifying the educational needs of most of the children in their class?

a) No PDC diagnostic assessment and evaluative system was implemented.
b) Less than 25%.
c) Between 25% and 75%.
d) More than 75%.
e) Data insufficient for rating.

The intervals between the points on the scales were of necessity set somewhat arbitrarily for the Year II ratings. The distinctions employed reflect staff expectations based on field experience of the intervals likely to reveal differences between sites. One objective for this year's field test of the IRI at five sites (reported in Chapter III) was to determine the adequacy of these distinctions.

Almost 300 scales were generated in this manner for the Implementation Rating Instrument. These were then organized into "subcomponent" clusters within each component containing scales which address similar aspects of the PDC guidelines. The three scales illustrated earlier, for example, were all placed in the "PDC Diagnostic and Evaluative System" subcomponent within the education component IRI. When analyzed, scores on items within the subcomponents could be averaged to produce a single subcomponent score, which could in turn be averaged with scores from other subcomponents within the education component to produce an overall component score.[1]

[1]Clustering items into subcomponents also helps insure that each extracted program requirement will contribute equally to the overall implementation rating for a given component. If this clustering were not done, an extracted requirement which happened to generate eight IRI scales would have a greater impact on the component rating than one which had only generated four. While it can be argued that all program requirements should not be given equal weight, until there are clearer criteria upon which to base these weightings, there is no alternative but to weigh each equally.

A draft version of the complete IRI was submitted to OCD program staff for review in January, 1976 to assure that the dimensions along which sites were to be rated conformed to OCD intentions for PDC. A revised version of the instrument incorporating their suggestions was field-tested at five sites this spring. Results from this field test along with the changes made in the IRI are reported in Chapter III.

STEPS 3-5: Identifying implementation variables. The task in these steps was to identify the information needed to describe and rate each program's implementation. The list of implementation variables was constructed in two stages: first, the IRI rating scales were examined to determine the information required to perform the ratings. Next, this initial variable list was reviewed and items added to insure that data necessary for describing the implementation as well as rating it were included. Again referring to the earlier example, applying this procedure to the total set of IRI scales produced from the implementation questions, the following variables were identified and added to the variable list:

1. A description of the PDC diagnostic and evaluative system developed or selected.
2. The number of PDC Head Start and elementary classes in which it is now operational.
3. The number of PDC Head Start and elementary children upon whom the system has been used for matching children with a particular instructional plan.
4. The number of PDC Head Start and elementary teachers who said that the system used this year had been effective in identifying the educational needs of most of the children in their class.
5. The dates when implementation of the system began.

## Identifying Hypotheses-Related Variables (Steps 6-9)

Variables to be measured in order to determine whether an initial list of explanatory hypotheses is supported were derived following the procedure illustrated in Steps 6 through 9 on the flow chart in Figure 2.

STEP 6: Formulate an initial list of hypotheses. After implementation rating criteria, procedures, and variables had been identified, the next design activity was the formulation of an initial list of hypotheses relating site organization and process characteristics to rated levels of implementation. This initial list has been, and will continue to be refined, pruned, and expanded throughout the implementation study, and will culminate in (a) a list of testable hypotheses for future research, and (b) a set of statements summarizing the "lessons" learned from the first three years of PDC about the relationships between process and organizational factors and implementation success.

To make this initial list as comprehensive as possible so that systematic data collection could begin immediately at all sites, hypotheses were obtained from three sources:

- knowledge of PDC programs obtained by staff members during planning year and fall 1975 site visits;
- review of the literature in the fields of educational and organizational change and innovation;
- consultations with PDC program staff.

These hypotheses have been revised several times in the course of the study. Chapter IV of this report contains a discussion of those formulated to date.

STEPS 7-9: Identification of hypothesis-related variables. As hypotheses were identified, the information needed to evaluate each at all sites was next identified. These hypothesis-related variables were then added to the variable list.

The analytic procedure for this step was the same as that used to identify implementation variables: hypotheses were examined and the dependent and independent variables identified. After the variables had been identified, those not already among the implementation variables were added to the list.

Identifying Descriptive Variables (Steps 10-13)

STEP 10: Identification of descriptive variables needed to produce a descriptive report for each site. Not all information needed about each site will be identified through the above design activities. Implementation variables only identify information needed to describe each PDC site in terms of the PDC guidelines. Hypothesis variables only identify site characteristics suspected of exerting some influence over a site's implementation of the guidelines. Some additional descriptors are needed in order to produce adequate reports describing each site.

The process of identifying descriptive variables is much like that described for the implementation and hypothesis variables. After staff discussions of the descriptive needs for site reports, a list of descriptors was identified. This list included such items as the demographic characteristics of the community served by the PDC program, the events leading to the introduction of PDC in the community, the background of key program personnel, etc. Some items were included in the list because staff members suspected that future hypotheses might be formulated from them. The list was next analyzed and variables identified; those variables already on the Variable List were removed, and those remaining added to the Variable List.

## Task 2: Data Collection

The basic data collection tasks are, (a) to determine the optimum methods for obtaining each category of information identified on the variable list; (b) to design instruments to collect the data; (c) to collect the data; and, (d) to complete the IRI rating scales for each site. The sequence of these activities is represented schematically in Figure 3.

In the original design (Interim Report III) full-scale data collections and implementation ratings were to have occurred twice--once at the end of Program Year II, and again in the spring of Year III. Delays by the Office of Management and Budget in approving the data collection forms, however, forced a reduction in these plans for Year II to a field test of the interview forms and IRI at five sites (see Chapter III), and a reduced collection effort at the remaining nine.

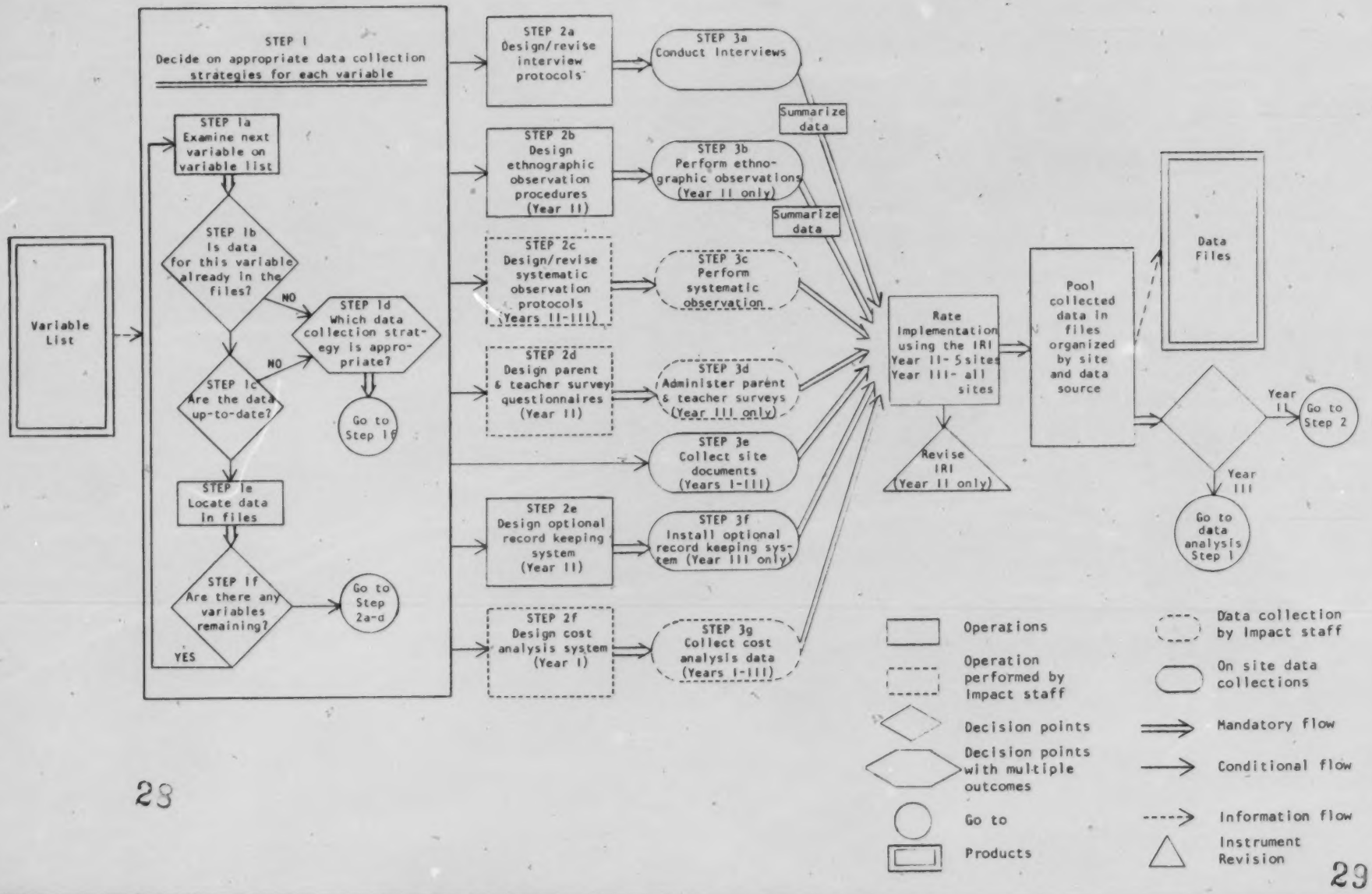
In all phases of the data collection process an effort has been made to impose a minimum burden on sites and reduce redundancies between the data collection activities of the implementation study and other parts of the total evaluation effort. This will be accomplished in part by utilizing an integrated data collection procedure in which

Figure 3

TASK 2:

# DATA COLLECTION PROCESS

PROGRAM YEAR I AND II



data collection activities for all components of the evaluation--the Impact Study, the Implementation Study, and the cost analysis--are coordinated. Some data collected as part of the Impact or Cost Studies will also be used for the Implementation Study.

STEP 1: Decide on appropriate data collection strategies for each variable. In this step each variable on the list is examined in turn and a series of decisions made:

- Have the necessary data already been collected?[1]
- If the data for a variable have already been collected, is more recent information needed?
- If more recent information is required, or if data for the variable have never been collected, what is the most appropriate strategy for collecting it?

Eight data collection strategies have been developed, either for the Implementation Study specifically, or for the Impact or Cost Studies in conjunction with the Implementation Study. These strategies are:

- Structured interviews to be conducted with PDC administrative and teaching staffs during site visits by teams from the contractor and subcontractor;
- Ethnographic (i.e., non-instrumented) observations of PDC classes and activities performed by High/Scope staff during site visits (Year II only);
- Systematic observations of PDC classes performed by local testers trained by High/Scope using an observation instrument designed by High/Scope (Years II and III);

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[1]Data collection from the sites began in the Planning Year with the gathering of information for the case studies. The first collection guided by this design was not until the winter site visit of Program Year II.

- Parent Survey questionnaires mailed to a random sample of PDC and comparison school parents as part of the Impact evaluation (Year III only);

- Teacher Surveys conducted with a sample of PDC and comparison school teachers (Year III only);

- Documents (i.e., proposals, curriculum statements, etc.) collected from sites (Years I-III);

- Data collected as part of the cost analysis (Years II-III);

- An optional on-site record-keeping system to be used by PDC staff to record needed information on PDC meetings, training activities, and delivery of required health and social services.

Data for most of the variables will be obtained through the structured interviews, with the other strategies supplying auxiliary or verification information. Site documents, the record-keeping system, and Cost Study data will, however, be a primary source for certain highly quantitative data (for example, average monthly volunteer hours) which would be difficult and time-consuming to collect in interviews. The parent surveys will be used primarily to obtain opinions from parents about the effectiveness with which various parent involvement requirements have been implemented. Data on the actual number and kinds of parent activities will be obtained from the other sources.

STEP 2: Design data collection instruments. After the procedure for addressing each variable was identified, instruments were designed to insure that the needed information would be collected.

STEP 3: Collect data. Data collection activities have been occurring and will continue to occur throughout the study. A schedule of collection times for each methodology is provided in Figures 4 and 5. Most of the data for the implementation study will be collected in interviews and ethnographic observations performed during one-week visits to each site in the fall, winter, and spring of Program Year II, and in January-February of Year III. Site documents will also be collected during these visits.

Figure 4

DATA COLLECTION SCHEDULE: PROGRAM YEAR II

| Method | Information Collected | Collected by: | Respondents | Collection Dates |
|---|---|---|---|---|
| 1. Structured Interviews | Implementation, hypothesis and descriptive variables; general explanations for levels of implementation. The basic data collection strategy. | High/Scope and DA staff | PDC administrative and teaching staff, parents, Head Start and school administrators | One-week site visits:<br>Fall, 1975--all sites<br>Winter, 1976--all sites<br>Spring, 1976--<br>5 sites: field test of forms to be used in PY III<br>9 sites: implementation data collection |
| 2. Ethnographic Observations | Implementation and descriptive variables | High/Scope staff | One class at each Head Start and elementary grade level | Site visit:<br>Winter, 1976 |
| 3. Systematic Observations[1] | Implementation and descriptive variables | Local testers trained by High/Scope | Head Start children (randomly selected) | Fall, 1975<br>Spring, 1976 |
| 4. Site Documents | Implementation, hypothesis and descriptive variables | High/Scope staff | PDC staff | Primarily during site visits:<br>Fall, 1975<br>Winter, 1976<br>Spring, 1976 |
| 5. Cost Analysis[2] | Implementation variables | DA staff | PDC administrative staff | Continually through PY II; site visits:<br>Fall, 1975<br>Spring 1976 |
| 6. Optional Record Keeping System | Implementation and descriptive variables | High/Scope staff | PDC staff; committee chairmen | (Designed, PY II) |

[1]Procedures designed and conducted by Impact Study staff

[2]Procedures designed and conducted by Cost Analysis staff

Figure 5

DATA COLLECTION SCHEDULE: PROGRAM YEAR III

| Method | Information Collected | Collected by: | Respondents | Collection Dates |
|---|---|---|---|---|
| 1. Structured Interviews | Implementation, hypothesis and descriptive variables; general explanations for levels of implementation. The basic data collection instrument | High/Scope and DA staff | PDC staff most knowledgable in each component area<br>2 PDC teachers at each grade level<br>Principals<br>PDC Council members | One-week site visits: January-February, 1977 |
| 2. Systematic Observations* | Implementation and descriptive variables | Local testers trained by High/Scope | Head Start children (randomly selected) | Fall, 1976<br>Spring, 1977 |
| 3. Parent Survey* | Implementation variables (primarily perceptions of effectiveness of implementation) | Questionnaire mailed from High/Scope | 100 randomly selected PDC parents at each site | Spring, 1977 |
| 4. Site Documents | Implementation, hypothesis and descriptive variables | High/Scope staff | PDC staff | Primarily during site visits:<br>Winter, 1977 |
| 5. Cost Analysis** | Implementation variables | DA staff | PDC administrative staff | Continually through PY III; site visits:<br>Summer, 1977 |
| 6. Optional Record Keeping System | Implementation and descriptive variables | Local program staff | PDC staff; committee chairmen | Continually through PY III; site visits: Winter, 1977 |
| 7. Teacher Survey | Perceptions of program implementation | High/Scope staff | 150 PDC and 150 comparison school teachers at each site. | Winter, 1977 |

*Procedures designed and conducted by Impact Study staff
**Procedures designed and conducted by Cost Analysis staff

Systematic classroom observations will be performed by local testers in the fall and spring of Program Year II, and in the fall and spring of Year III, at Head Start centers only; the Parent Survey will be administered in the spring of Year III. Cost data will be collected continuously throughout both years, with site visits by cost specialists from the subcontractor occurring twice in Year II and once in Year III.

Data collected in individual interviews and ethnographic observations will be summarized by site visitors at the end of the site visit. Both the summaries and raw data will then be placed into the data files.

STEP 4: Rate implementation using the IRI. Full-scale rating of program implementation will not occur until after the Year III site visit. While data from all sources and data collection periods will be used in the analysis, the primary source of data for the rating of implementation levels will be the structured interview conducted during that site visit.

At the end of the site visit week, the site visit teams will meet to consolidate their information and complete the IRI ratings; ratings will be obtained on all scales for which data were collected from structured interviews. The remaining scales will be completed by the High/Scope site visitors in Michigan from other data.

Site visitors will also perform a second set of implementation ratings at each site designed to incorporate more latitude into the assessment process. Whereas the IRI contain a battery of scales with clearly defined criteria for rating (e.g., the number of classrooms in which a given requirement had been implemented), this second set of scales is less restricted, less quanitative, and more judgmental.

At the end of each IRI subcomponent, after the specific ratings have been performed, raters will reassess implementation along the dimensions encountered earlier. Their assessments this time, however, will be based upon whatever information that rater can bring to bear on the site's implementation experience. Mitigating circumstances can be included in these assessment decisions; if a site had achieved implementation of the diagnostic and evaluative system in only 25% of its PDC classrooms, but because of a fall teachers strike this represented a singular implementation achievement, that site might still receive a high rating on these scales.

When analyzed, the IRI scores will be compared with the judgmental scores. Should substantial discrepancies appear, both sets of scores will be reported and analyzed.

STEP 5: Pool collected data in files. Data from all sources will be pooled into a single file for each site at High/Scope offices in Michigan. Data in these files will be of two types: raw and processed. Processed data include monitoring reports for each site from Year I, interim implementation status reports from fall, 1975, site proposals, interview summaries from each site visit, case studies from Program Year I, and summaries of data collected by the Impact and Cost Studies. Raw data kept in these files will include individual interview responses, ethnographic observation notes, and site documents such as curriculum statements, meeting minutes, and so forth.

## Task 3: Data Analysis

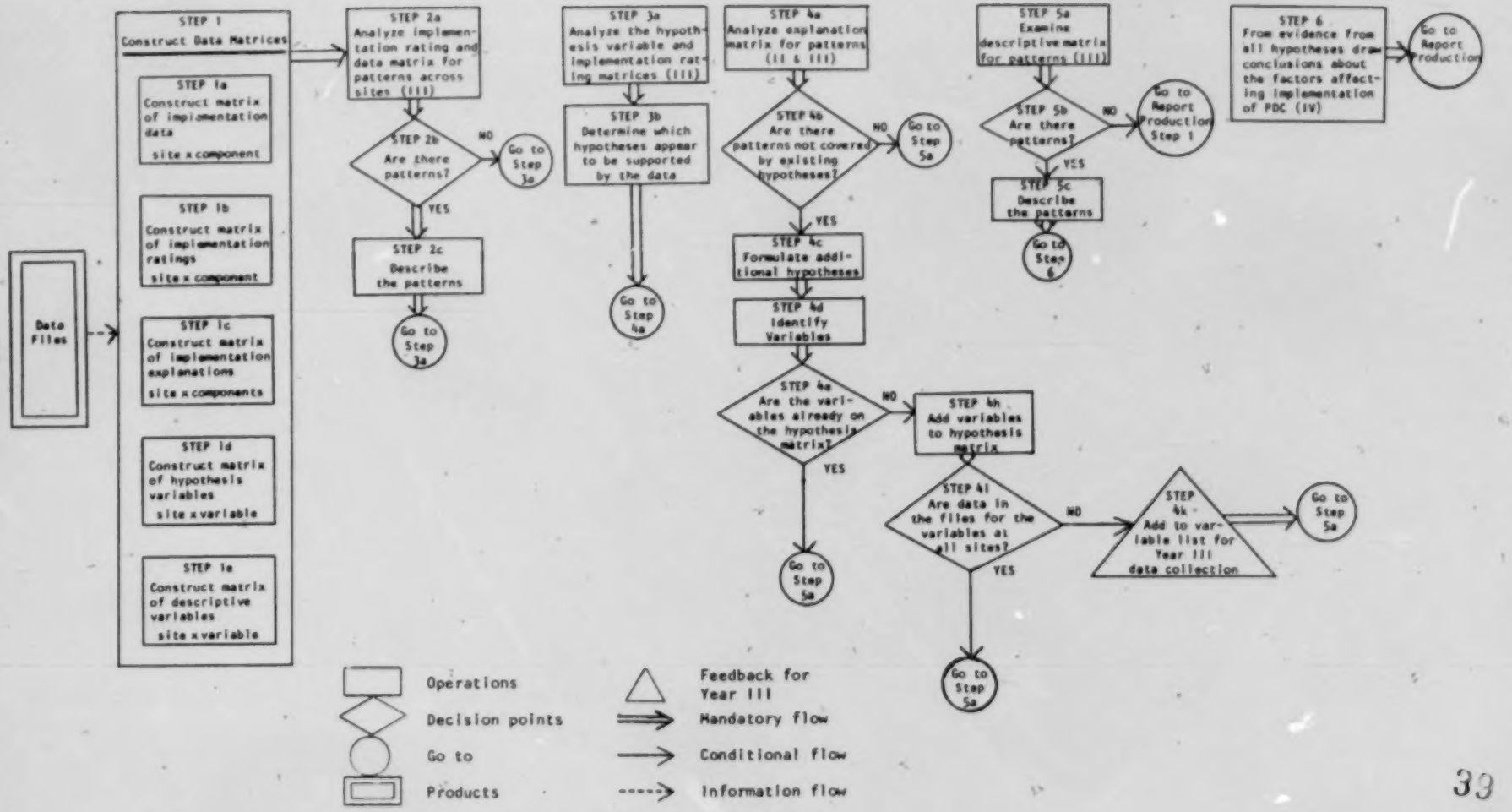
Because of the descriptive nature of much of the information collected from the sites, and the largely inductive nature of the study, large amounts of qualitative, uncoded data will be obtained using the methods described in the preceding section. These data must be analyzed systematically and efficiently to identify patterns in the implementation experiences of the PDC programs, and to generate hypotheses for their explanation. Most of the data analysis (Figure 6) will occur in Year III; the process is an inductive process beginning with the organization of the files of pooled data from each site into a set of matrices which facilitate rapid comparisons of similar categories of information from different sites. These matrices will then be analyzed for patterns.

### Organizing the Data (Step 1)

Data from all sources have been or will be organized into five matrices: there will be one matrix for each of the three categories of variables on the variable list, a separate matrix for the IRI scores, and a final matrix containing the explanations obtained from sites for their levels of implementation in each component. Because of the quantities of information involved, and the need for easy juxtaposition of matrices, the "cells" of a given matrix will generally be represented by separate file folders containing extensive written descriptions.

Figure 6

Task 3:
DATA ANALYSIS PROCESS




Roman numerals indicate the program years in which the activities will occur.

STEP 1a: Construct a matrix of implementation data (Years II and III). The first matrix contains data needed to complete the IRI ratings, organized by site and guideline component. The contents of each cell are further organized by IRI subcomponent (i.e., variables addressing the same extracted guideline requirements). Thus, for the education component there would be on the matrix a row of 14 cells, each containing information about education component implementation variables at a PDC site. The information within cells is organized according to IRI subcomponents: there is, for example, a description of the diagnostic and evaluative system, a report on the judgments of teachers as to that system's effectiveness and information on the extent to which the system had been implemented at the site in question. Similar data are also included for other education component clusters, such as the PDC plan for individualization of instruction, development of a coordinated curriculum, etc. This matrix has been updated following each site visit.

STEP 1b: Construct a matrix of implementation ratings (Year III only). The previous matrix contained the information needed to complete the IRI ratings for each site; this second matrix will contain the actual products of those ratings--the IRI and judgmental rating scores. The matrix will again be organized by site and component, with each cell organized by subcomponents. Thus, each cell would contain an IRI score for each subcomponent, a judgmental rating score for the same clusters, and an overall score for the entire component derived from each rating system.

STEP 1c: Construct a matrix of implementation explanations (Years II and III). As part of the implementation rating process, site visitors have been investigating and reporting local factors, conditions, or events which affect implementation. This explanatory information, derived from several sources, is organized in this matrix. Like the preceding matrices, the axes on the implementation explanation matrix are sites and components, with each component organized by cluster. Thus, a site may have been unable to implement its diagnostic and evaluative system because teachers had voted against using inservice training days for instruction in its use. This explanation would be entered on the matrix in the diagnostic and evaluative system section of the education component cell for that site.

STEP 1d: Construct matrix of hypothesis-related data (Years II and III). The information needed to evaluate the extent of empirical support for the hypotheses generated earlier is being organized into a matrix by site and individual variable (rather than by guideline component as in the preceding matrices). Each cell contains the data for a specific hypothesis variable at a given site. A hypothetical example of a section of this matrix is illustrated below:

| | | SITES | |
|---|---|---|---|
| | | A | B |
| VARIABLES | Teacher Recruitment Procedure | Teachers compatible with PDC philosophy actively recruited by PDC staff from all schools in district. | No recruitment or selection of teachers. Teachers previously in school retained for PDC. |
| | Number of Bilingual Head Start Teachers | 4 (100% of total) | 4 (25% of total) |
| | Number of Bilingual Elementary Teachers | 10 (50% of total) | 0 |

STEP 1e: Construct matrix of descriptive variables (Year III only). The final matrix will organize data collected to complete the descriptions of each program beyond what has already been obtained as part of the assessment of implementation or hypotheses. Like the hypothesis variable matrix, the descriptive variable matrix will be organized by variables and sites, with each cell containing information on a specific variable at one site. Examples of a few hypothetical cells from this matrix are illustrated below.

| | | SITES | | |
|---|---|---|---|---|
| | | A | B | C |
| VARIABLES | Population of Community | 25,000 | 500,000 | 1,540,000 |
| | Total Number of Schools in District | 4 | 14 | 25 |

Analyzing the Data (Steps 2-6)

Once organized, the data matrices will be analyzed for patterns and relationships. For the most part these analyses are done qualitatively, although quantitative procedures will be used where appropriate and possible. The analytic tasks are as follows:

- Step 2--Analyze the implementation data and rating matrices to discover patterns in implementation experiences across sites;
- Step 3--Analyze the hypothesis variable matrix to determine the extent of support for existing hypotheses;
- Step 4--Analyze the implementation explanation matrix to determine whether additional unanticipated causal factors emerge from the data for which new hypotheses must be formulated;
- Step 5--Analyze the descriptive variable matrix for patterns;
- Step 6--Formulate conclusions and findings for reporting.

STEP 2: Analyze implementation rating and data matrices for patterns.[1] The implementation data matrices and implementation rating matrices will be analyzed for four types of patterns, or relationships, using statistical or qualitative analyses as appropriate:

- Patterns in the levels and varieties of implementation for each site, across components;
- Patterns in the levels and varieties of implementation for each component, across sites;
- Relationships within sites between implementation scores in one component or cluster and those in another component or cluster;

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[1]A portion of this analysis for the five field test sites is reported in Chapter III.

- Relationships between degrees and features of implementation success and degrees of measured program impacts.

Patterns of the first type will be identified by reading down each column in the implementation matrices; this reading will produce an implementation "profile" for each site. These composite profiles can then be compared across sites to identify regularities in general implementation levels at all sites.

Patterns of the second variety above will be identified by reading across each row of the two matrices. Such an examination could, for example, reveal that several sites had equal difficulty implementing the parent involvement component, whatever the reasons. It could also reveal that the best implemented sites used the same commercially available diagnostic and evaluative system, while sites which opted to design their own systems were unable to achieve substantial implementation (the examples are hypothetical). Depending upon other later analyses, these patterns might suggest a hypothesis to be explored in the study for Year III of the project.

The third variety of pattern will be discovered through statistical manipulation of the component and factor scores in the implementation data matrix. Each component and cluster score will be correlated with all other component and cluster scores to identify relationships between implementation success in one program area and success in others. This analysis can also reveal valuable information about the Implementation Rating Instrument itself by identifying the relative contributions of implementation ratings for sites.

Patterns of the fourth variety will be identified by relating implementation rating scores with outcome data obtained through child testing and surveys of parents and teachers.

STEP 3: Analyze the hypothesis variable and implementation rating matrices for patterns. The objective in this next analytic step is to discover patterned relationships between hypothesized independent variables on the one hand, and implementation rating levels on the other. Two types of relationships are predicted in the hypotheses:

- Relationships between implementation of two guideline requirements (e.g., "sites with a functioning PDC Council will have higher implementation ratings for the parent involvement component");

- Relationships between independent process factors or organizational characteristics and implementation ratings for given components or clusters (e.g., "sites with voluntary teacher participation will have higher implementation for the education component").

Analysis for relationships of the first type described above will be based on the implementation rating matrix only; analyses for the other types of relationships will use both the implementation rating matrix and the hypothesis variable matrix. All three analyses will involve three steps:

- Review each hypothesis to determine the nature and direction of the predicted relationship between the independent and dependent variables;

- Locate the dependent and independent variables from the hypothesis on the appropriate matrices;

- Determine the extent to which the hypothesis is supported by the data.

STEP 4: Analyze the explanation matrix for patterns. The explanation matrix is a primary source for new hypotheses for investigation in Year III. Thus, this analysis has already begun and is reported in Chapter IV. Explanations supplied by sites for their implementation successes and failures were examined for patterns across sites. Where such patterns were found, they were examined to determine whether the explanatory factors involved had already been identified in existing hypotheses. For those factors not already included in the hypothesis list, new hypotheses have been formulated and added to the list. If the data necessary to evaluate any new hypothesis at all sites were in the files already, the independent variable was simply added to the hypothesis variable

matrix and the hypothesis will be evaluated at all sites following the procedures outlined for Step 4. If the necessary data have not been collected at all sites, the independent variable(s) from the hypothesis have been added to the variable list for Year III data collection.

STEP 5: Examine descriptive matrix for patterns. The principal function for the descriptive matrix is to organize data needed to complete the necessary description of each site. These data will also be analyzed for patterns so that summary statements about trends among characteristics of all the programs can be included in the annual report. If it appears that any of these patterns are related to implementation success, the variables will be transferred to the hypothesis variable matrix and hypotheses formulated for them.

STEP 6: Draw conclusions from the analyses. After all data have been analyzed and patterns and relationships identified, answers to the original research questions will be formulated for inclusion in the Implementation Study interim report for Year III.

## Task 4: Report Production

Two types of reports will be prepared for OCD from these analyses: Implementation Status Reports and the National Implementation Process Study.

### Implementation Status Reports

Submission Dates: March 1, 1976
August 1,1977

The Implementation Status Reports will contain descriptive accounts of implementation activities at each of the sites for each program year. They are intended to supply answers to the first research question raised at the beginning of this chapter:

*What is the nature of the PDC program at each site?*

These reports, which are based upon information organized within the implementation data matrix, were prepared for each site following the fall 1975 site visit, and a second set will be completed after the spring, 1977 visit.

National Implementation Process Study

Submission Date: August 1, 1977

Whereas the Implementation Status Reports are descriptions of the PDC program at each individual site, the National Implementation Process Study will contain analyses of that descriptive data. Specifically, the report will contain answers to the following research questions:

*How successfully has each program implemented the guidelines for each program component?*

*What trends are there across sites with respect to levels of implementation?*

*What factors have shaped or affected the implementation of PDC at each site?*

*What patterns are there across sites with respect to the factors affecting or shaping the implementation of PDC?*

III

# DEVELOPMENT OF IMPLEMENTATION ASSESSMENT INSTRUMENTS

## Purposes of Spring 1976 Field Test

The original plan for the spring 1976 site visits called for continued data collection activities and initial assessments of program implementation at each PDC site. This visit was to have resulted in a set of individual reports describing program progress at each site and a single national report analyzing trends in implementation across sites. These analyses would have provided baseline data for evaluating changes in programs' implementation of the PDC guidelines at the end of Year III. A delay at the Office of Management and Budget in approving the spring data collection instruments, however, forced a modification of those plans.

Instead of full-scale data collection at all sites, a field testing of the Implementation Rating Instrument (IRI) and accompanying interview forms was carried out at five sites, while a restricted data collection plan was carried out at the other sites. It was anticipated that through this revised strategy some interim information on projects' implementation could be obtained for all sites. It was also expected that the experience gained through the field tests would permit substantial revisions in the instruments to improve their sensitivity to differences in implementation levels, and to reduce the data collection burden for the sites.

Visits to the nine sites not participating in the field test included brief summary interviews with the persons most knowledgeable in each component area. These interviews were semi-structured guides to conversation designed to provide interim data on the progress of program implementation at each site. Visitors also reviewed available site documents and conducted ethnographic observations of various site activities. (Results from this nine-site data collection activity will be incorporated into the Implementation Study final report in August 1977.) The Development Associates

member of each of these nine field teams gathered information on one specific aspect of each program's implementation in order to provide additional suggestions for hypothesis formation and instrument design.

This chapter reports the results from the field test of the interview forms and application of the IRI at five sites. This field test had three purposes:

- To determine the suitability of the data collection strategy for collecting information needed for rating levels of implementation;
- To determine whether evaluation staff could complete the ratings on the IRI;
- To examine the capacity of the IRI for measuring program implementation.

The activities carried out and the information gained relative to each of these purposes are discussed below, following a description of the field test procedures.

## Field Test Procedures

### Sampling

When selecting the five sites to participate in the field test, an effort was made to obtain a sample that was geographically, demographically, and organizationally representative of the entire population of PDC sites. Sites included in the sample also represent something of the range of program foci: Site 5, for example, was known to have focused considerable effort on the implementation of the developmental support services component, while Site 4 concentrated on implementation in the education component. The sites were as follows:

- Site 1--Small city; PSL model; bilingual demonstration project
- Site 2--Rural community; PSL model
- Site 3--Urban area; ECS model
- Site 4--Small town; ECS model; bilingual demonstration project
- Site 5--Urban area; PSL model

### Instrument Design

The process by which the interview forms and IRI were designed was described in Chapter II. Briefly, this process involved extracting a list of program requirements from the guidelines, and devising a set of rating scales that could be used to assess the extent, intensity, and effectiveness (as perceived by participants) of implementation of each requirement. Interview forms and other data collection strategies were designed to insure that all of the information needed to complete the ratings was obtained from each program. Two types of interview forms were developed. One was designed to be administered to the person most knowledgeable in each component area. In this form specific questions were asked about aspects of sites' implementation experience in each of the seven component areas and reasons for whatever successes or failures had been experienced.

In addition to these seven component interviews, a second type of interview guide was developed for use with PDC teachers at each site. Questions in this form focused upon the teacher's perception of effects of the program on his or her classroom endeavors, and the extent of their personal participation in any PDC activities. Unlike the component interviews, questions in the teacher interview were derived from all areas of the IRI which related to classroom activities.

## Interview Procedures

Copies of the interview forms were sent to each site prior to the field test, along with encouragement that the coordinators distribute the forms prior to the visit, so that the people to be interviewed could gather requested information before the actual interview sessions.

Originally, it had been intended that three teachers would be interviewed from each grade level at each site (a total of 15 teachers per site) because many IRI items dealt with percentages of teachers who indicated that particular program activities took place and that they were effective. Without OMB clearance, however, a total of no more than nine teachers could be interviewed. Therefore, three teachers--one each from Head Start, kindergarten, and third grade--were interviewed at Sites 2, 4, and 5, and no teachers were interviewed at the other sites.

Field teams consisting of two (at four sites) or three (at the largest site) visitors from the High/Scope Foundation and Development Associates visited each site for one week in April or May. Efforts were made to send to each site only staff who had previously visited that site. Efforts were also made to minimize the collection of redundant information by completing information for each interview question from existing files and instructing site visitors to ask only questions for which information was not already available.

Interviews were conducted as on previous site visits: coordinators designated the staff and teachers to be interviewed and scheduled times and meeting places for them.

## Rating Procedures

When the interviews were completed and necessary supplementary documents compiled, the field team met on site and completed the IRI item and judgmental scales for each component

area (see Appendix A). Rating procedures actually employed by the teams varied, but in each case visitors were instructed that the ratings should reflect the consensus of the group based on all available information. Generally, the procedure followed was for one team member to read the individual IRI items, while the person who conducted the relevant interviews consulted notes and suggested ratings. If other team members had supporting or contrasting information, the team would discuss the rating further; if no consensus could be reached, the component interviewer's rating was used, and an explanation of the differences of opinion was recorded next to the IRI item. After the separate item scales for each subcomponent were rated in this fashion, teams assessed the implementation for the entire subcomponent using the judgmental scales.

If the information necessary for completing a given rating was not available, raters were instructed to code an item "Data insufficient for rating." Similarly, if for some reason a particular item was not applicable to a given program, "Not applicable" was recorded. Team members were instructed to be conservative in the application of this latter coding category. The field teams were instructed to make notes of any difficulties encountered either with the interview forms or with the Implementation Rating Instrument.

## Data Analysis Procedures

Following the site visits, the ratings and site visitor comments were compiled and tabulated. The first step in the analysis was to compute mean ratings for each subcomponent by averaging the ratings of each item in the subcomponent. Component means were then derived by averaging the subcomponent scores in each component. This computational procedure prevented any one subcomponent from contributing more heavily to the component score than others simply because it might have more IRI items within it. While it could be argued that subcomponents are not of equal importance, in the absence of clear criteria for weighting, it was decided to weight each subcomponent equally.

Next, the component and subcomponent means were plotted and analyzed for patterns. From these analyses and field team comments the IRI and interview forms were modified.

## Field Test Results and Proposed Instrument Revisions

The results are organized around the three general purposes of the field test, and are presented as discussions related to the three basic questions:

- Was the data collection strategy suitable for collecting information needed to complete the IRI?
- Could evaluation staff assess implementation using the IRI?
- How well does the IRI measure program implementation?

In each of the sections below, experience gained in the field test is synthesized and presented to answer these and related questions. Since for each question the answer is not an unequivocal "yes," steps have been taken to modify instruments, procedures, or analysis plans to improve the overall quality of the Implementation Study.

### Was the Data Collection Strategy Suitable for Collecting Information Needed to Complete the IRI?

For the most part, the interviews went smoothly throughout the field test. Because they had been given the forms prior to the visit and were interviewed by visitors who had been to the site before, most site personnel seemed to feel that the interviews were more comfortable, if not less demanding, than those of prior visits. The most recurrent comments by interviewees and visitors concerned the length and occasional redundancy of the interview forms. At one site, for example, the developmental support services interview required six hours to complete; interviews in other component areas generally required at least two hours, and frequently more. Judging from the responses from those interviewed, local personnel did not object to the length of the interview, per se. Staffs generally realize that their's is a complex program and complex programs take time to describe. Frequently, in fact, interviewees seemed to welcome the opportunity to describe their programs, regardless of how long this took. Most site visitors found that by segmenting the interviews so that no one person was interviewed for more than two hours in a single day, project personnel were not unhappy with the demands upon their time.

When interviews did occasionally become onerous, the cause generally was not length so much as redundancies occasionally encountered within them. In deriving the guides from the needs of the IRI, specific questions were often asked, and sometimes the differences between some of the questions were not obvious. Thus, interviewees sometimes found themselves giving the same answer to a series of questions. The most salient example of this type of redundancy occurred within the developmental support services component interview. In that guide a series of questions was asked which sought program information related to the nutrition component. Since the guidelines, and therefore the IRI, specify several types of nutrition-related instruction which must occur in PDC, there was a series of questions in the guides asking whether and how each had been accomplished on-site. In most interviews the first question in the series elicited a complete description of the site's nutrition instruction program; the subsequent questions were redundant.

A second type of redundancy also added unnecessarily to the length of interviews. Another artifact of the instrument development process was that each interview guide followed closely the IRI component from which it was derived; thus, there was often considerable redundancy across interviews in the kinds of information requested. Information about parent training activities, for example, was requested both in the parent involvement and in the training interview. In some cases this redundancy added useful supplementary perspectives on sites' activities; in others, however, it simply added to the overall respondent burden.

In revisions of the interview guides for Year III, both types of redundancy have been examined closely and removed where unnecessary. Consequently, several of the interviews have been shortened considerably with little loss of information.

An indication of the adequacy of the interviews for obtaining information needed for completing the ratings can be seen in the number of IRI items for which the field teams could not complete the ratings. The percentages of items rated for each subcomponent are listed in Table 1 at the end of this chapter. Although the percentage of items rated varied from component to component, it was low for a number of components (ranging from 59% of the items in the parent involvement component to 85% of the administration component items). When the percentage of items rated is examined within subcomponents, the range is from 0% to 100%. Only 51% of the subcomponent scales had more than 75% of the items rated, and 15% of the scales had fewer than 50% of the items rated.

In part these low percentages can be explained by the unexpected absence of data from the parent survey and multiple teacher interviews at each site. When the IRI was originally designed it was anticipated the raters would be able to use data drawn from each of the sources described in Chapter II. Thus approximately 20% of the item scales in the IRI require data on the percentages of parents and teachers who gave particular responses to interview or survey questions. Since neither the parent survey nor extensive teacher interviews were conducted in the field test, these items automatically could not be rated in the field test.

Additionally, some items in the IRI could not be rated because of difficulty encountered by interviewers in obtaining some of the specific information requested about such areas as the number of training sessions held, participants in training and meetings, the number of children receiving the various diagnostic assessments, etc. Sites' records in these domains were often absent.

Since the adequacy of scale scores (sums of items within components or subcomponents) depends on the number of completed items, it is critical that procedures be established to insure information that is as complete as possible. Three types of revisions have been completed to accomplish this: first, a suggested system for maintaining certain site records has been designed for presentation to sites this fall. The suggested system consists of several model forms which outline the specific varieties of information needed for evaluation. These forms can be used directly by sites, or existing local systems might be revised to accommodate the necessary categories of information. Specifically, the system will include (a) a model form for recording pertinent information about each PDC training activity (illustrated in Figure 7); (b) a model form for maintaining attendance records of PDC council meetings; (c) model forms for recording assessments and service deliveries in the area of developmental support services; and (d) a suggested form for recording the amount and types of parental involvement in PDC classrooms. In addition to insuring more complete and consistent information about programs, the suggested system will also contribute to an overall reduction in the length of interviews.

Figure 7

Sample Form From the PDC
Optional Record-Keeping System

**Training Report**

Instructions: *Please fill out this form for each PDC training session or activity held. Please attach the PDC training roster sheet containing information on the names and positions of session participants.*

a. Date of Training Session:

b. Who conducted the training: (Specify title and position)

c. Number of hours session was held:

d. Number of persons who received training:

| | |
|---|---|
| ____ Head Start teachers | ____Head Start parents |
| ____ Elementary teachers | ____Elementary parents |
| ____ Head Start aides or associates | ____PDC Council members |
| ____ Elementary aides or associates | ____PDC Program staff |
| ____ Head Start administrators | ____Other (identify) |
| ____ Elementary administrators | _____ |

e. Content: Below are listed training topics described in the PDC Implementation Year Guidelines. Please check which of these topics, if any, were addressed in the training activity.

____philosophy, goals, basic priniples and required elements of PDC program as stated in OCD guidelines.
____local goals and objectives, as staed in FY 76-77 proposal.
____organizations, philosophy and goals of the local Head Start program
____organization, philosophy, and goals of the elementary school program
____decisions and policy-making (check specific categories)
___roles, responsibilities and goals of PDC Council
___roles, responsibilities and goals of Head Start Policy Council
___roles, responsibilities and goals of local Board of Education

CONTINUED:

Figure 7
(continued)

___training for parents in how to work with teaching and administrative staff
___training for staff in how to work with parents
___classroom-related training for volunteers
___child growth and development (check specific categories)

___cognitive needs of children
___language needs of children
___social-emotional needs of children
___physical needs of children
___nutritional needs of children
___medical needs of children
___dental needs of children

___community resources available to meet children's needs (check specific category)

___medical services
___dental services
___psychological services
___social services
___nutritional services

___use of the PDC diagnostic and evaluative system
___methods of individualizing instruction
___teaching developmentally - appropriate basic skills
___integration of health education into classroom activities
___preventative health, emergency first aid, and safety practices
___skills needed to provide special individualized help to handicapped children (check specific categories)

___background information on handicapping conditions
___special techniques helpful in working with handicapped children
___use of special materials

___sensitizing staff to the needs of bilingual/bicultural and/or multicultural children
___other (specify topic)

f. Describe how the training addressed each of the above content areas:

Second, where possible the subcomponents have been combined or reconfigured so that there are sufficient item scales in each. In the field test instrument, some of the subcomponents had but two or three items while others had up to 29; if one or two of the items in the smaller subcomponents were uncodable, the reliability of the resulting subcomponent score would be highly questionable. The revised IRI (Appendix A) has more than five items in almost every subcomponent.

Finally, in the revised IRI scales have been redefined to reduce the instrument's overall dependency on the quantitative results from the parent survey and teacher interviews. Instead of scales defined by percentages of responses, the new IRI contains only scales which ask the rater to use available information and rate along a "none...some...most...almost...all" dimension.

## Could Evaluation Staff Assess Implementation Using the IRI?

The IRI contains two sets of scales derived from the PDC Guidelines (see Chapter II for a detailed description). One scale requires an assessment of implementation along carefully defined, relatively restricted, quantitative dimensions; the other asks the rater for a more global judgment about an entire subcomponent. Since the IRI is central to the implementation assessment process, it is important to ask whether it could be successfully used by evaluation staff. This question can be divided into two parts for the purposes of discussion:

- Were procedures for review and analysis of information by raters adequate?
- Could raters understand and rate the IRI items?

According to the field procedures, the review and analysis of information pertinent to each item was carried out by the field team as a group before completing a rating. The presence of several evaluation staff each with a set of information obtained from different respondents, permitted cross-checking and corroboration of each others' assessments. The need for accurate information was emphasized by encouraging each member of the team to challenge the information of the others and to substantiate his or her own data.

The major problem encountered in attempting to complete the ratings could be traced to the definitions of some of the terms. A number of guideline areas did not specify specific activities that had to occur. Since the sites were encouraged to adopt local variations in these areas, the definitions provided to the field teams were purposefully flexible enough to incorporate the local definitions. Problems in judging a site's implementation arose when the local definition was clearly in conflict with the best judgment of the entire field team. An example of this is in the training area. One site's philosophy was that "training" was a continuous process occurring whenever parents, teachers, or other staff were engaged in program activities. Thus, by this definition almost every meeting and conversation could be considered "training." While this is certainly true in the broad sense of "training," it is not a useful definition for distinguishing levels of activity in a number of different areas.

On the basis of the experience gained in attempting to rate all IRI items in the seven components, a number of cases were found where it seemed desirable to clarify definitions. An attempt was made to restrict the meaning of certain terms, but to retain OCD's original intent of permitting local variation; it is hoped that the refined definitions provide a clearer framework within which some variation is permitted.[1] These definitions will be further reviewed by the evaluation staff, OCD, and by the local programs to insure clear and consistent usage during the Year III data collection.

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[1]The revised definitions are included in Appendix B. The terms that were redefined are Academic Year; Aides and Associates; Assessment of Nutritional Needs; Diagnostic and Evaluative System; Head Start Center Committee; Individualized Instructional Approach; Internal Assessment System; Joint Conferences, Meetings and/or Workshops; Major Role; Member of Group; Minor Role; Moderate Role; Parents; Provision for Regular Communication; Supplemental Funding; Timetable; Training; and Workshops, Classes and other Activities for Parents.

In general, the field experience suggests that with some modifications the IRI can be a useful, albeit time-consuming, technique for obtaining systematic ratings based on open-ended interview data.

## How Well Does the IRI Measure Program Implementation?

In preparation for Year III assessment of implementation at all sites, the five-site field test was designed to provide evidence of the adequacy of implementation scores obtained from the IRI. Their adequacy would be indicated by a capacity to differentiate levels of implementation across sites and across components within sites. Another test of the adequacy of scores is obtained by comparing the two methods of rating implementation (summing all items within subcomponents or components to obtain a scale score vs. the single judgmental rating of entire subcomponents). The two key parts to the question, then, are:

- Are scores obtained from the IRI sensitive to differences in implementation levels at the component and subcomponent levels?
- What is the relationship between ratings obtained using the item IRI scales and those using the judgmental scales?

The data that pertain to these questions--the number of items in each component and subcomponent, the number and percentage of items rated, the mean rating, and the subjective (judgmental) rating--are tabulated in Table 1. Figures 8 to 13 illustrate relationships among components and among sites. Figure 8 compares the mean component ratings on the item scales for each site. Figures 9 through 13 plot the item scale ratings (solid lines) for each site individually, by subcomponent, along with the judgmental ratings (dashed lines) for those same subcomponents.

Sensitivity to differences in levels. The distribution of mean component and subcomponent scores suggests that the IRI is distinguishing between components within sites as well as differentiating sites, although some caution must be exercised in interpreting scores where fewer than 75% of the items were rated. Within Site 1, for example, the mean component ratings ranged from 3.1 on a 4-point scale (administration) to 3.9 (handicapped and BL/BC demonstration). Site 2 showed a much greater variation between components--mean scores ranged from 1.5 for the bilingual/multicultural component to 3.3 for administration Within-site differences in the subcomponent mean ratings were even greater.

The IRI ratings also showed substantial differences between sites in some components. The greatest variation was in education, where mean ratings ranged from 2.2 in Site 3 to 3.8 in Site 1.

A potential concern raised by these data is that some components have relatively high ratings in several sites. In the support services component, four of the sites have a mean rating of 3.5 or above. To the extent that ratings tend to be high, the IRI will be less sensitive to changes in levels of implementation over the next year. In addition, the ability of the IRI to detect differences between sites is reduced. Although some differences between sites were detected in all components, in order to reduce the problem of high ratings, the items that tended to receive consistently high ratings have been reviewed and rewritten so that extreme ratings will be more difficult to achieve.[1]

Relationship between the two rating methods. When the IRI was originally conceived, it was not clear whether the best method for assessing program implementation would be highly-structured criterion-referenced items in a multiple choice format or less rigidly defined scales which could measure the raters' subjective feelings about the success of program implementation. Scales of both types were included on the IRI to permit an investigation of the value of each.

Five judgmental scales were constructed to assess characteristics of program implementation:

- Breadth of Implementation
- Intensity of Implementation
- Duration of Implementation
- Organizational Acceptance
- Overall Level of Implementation

Members of the evaluation team rated the judgmental dimensions on a 5-point scale after completing the multiple choice items on each subcomponent. Judgmental scale scores are available at the subcomponent level on all five dimensions, and can be computed at the component level by obtaining the mean of the subcomponent ratings.

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[1]Since implementation trends from Year II to Year III are not being assessed, changes in the basis for rating will not affect our conclusions about sites' degree of success at implementation.

Because field staff had difficulty with the definitions for all the judgmental dimensions except the overall rating of program implementation, it was decided to omit the first four dimensions from data analysis and to study only the relationship between the item scale ratings and the overall judgmental ratings. On the basis of this experience, the number of scales will be reduced to four by omitting the "Duration" dimension. To further clarify the task for next year the judgmental scale definitions will be refined and staff training will focus on developing clear understanding of the judgmental dimensions.

The component and subcomponent item-scale scores and the judgmental ratings of overall implementation are presented in Table 1. Graphs of the relationship between the subcomponent item scales and the judgmental ratings are presented by site in Figures 9 to 13. To make the two types of ratings comparable, it was necessary to collapse the "very high" and "high" categories on the judgmental scales. This affected the scores of 9 of the subcomponent ratings and 4 of the component ratings. Next year, this problem will be avoided because the judgmental scales have been reduced from 5-point scales to 4-point scales.

As the graphs reveal, the information obtained in the field test indicated that there is a close relationship between the judgmental and item scale ratings at both the component and subcomponent levels, but that differences in the two techniques do exist.[1] The average difference in the ratings for the total sample for all subcomponents is 0.6 The average differences in the ratings at the component level vary from 0.1 to 1.3, indicating that the differences in the scale ratings is not uniform. Both component and site differences are apparent in the rating differences at the component level. The range in rating differences at the subcomponent level varies from 0 to 2.1.

The judgmental rating scale has a higher score than the item scale ratings in 65% of the subcomponent comparisons and is lower in 37%. At four sites (Sites 1, 3, 4, and 5) the judgmental ratings are higher than the item scales in more than 50% of the subcomponent comparisons. This trend

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[1]Again it should be emphasized that ratings on some of the subcomponent IRI item scales were unstable, due to the fact that some of the items could not be rated.

indicates that, when asked to rate specific subcomponent activities on a fairly quantitative basis, the average level of implementation will be lower than when raters make a global judgment of "overall level of implementation" for an entire subcomponent.

Comments from site visitors suggest two reasons for these discrepancies: first, the item scales in the IRI permit ratings based only on certain defined pieces of information; if a program had gone outside the scales in its implementation, there was no way that these deviations could be accommodated in the ratings. Second, site visitors did not weigh each element of implementation equally when producing their judgmental ratings. The item scale subcomponent scores were simple means of the individual ratings within the subcomponent, with each item contributing equally to the score. The judgmental scales allowed the rater to weight certain factors more heavily than others if they wished.

Since there is some evidence that the judgmental scales are measuring program implementation differently than the item scales, the judgmental scales will be included in the IRI next year as part of the full-scale evaluation. At that time, an effort will be made to determine whether these differences are attributable to method variance or aspects of program development that are not adequately measured in the item scales.

## Summary and Conclusions

The field test provides some encouragement that it is possible to measure systematically the degrees to which the various PDC programs have implemented PDC. With a few exceptions the field teams were able to collect the information needed for the ratings of implementation using the interview guides. Teams were then able to use the IRI with little difficulty and produce ratings that revealed differences between test sites in their implementation of the various PDC components.

Some changes, however, were suggested by the field test. The interview forms were often too long, with frequent redundancies. Further, certain types of highly quantitative data were not easily collected through the interview format. In the revisions of the instrument, redundancies have been removed wherever possible and the instrument streamlined generally by the addition of a suggested record-keeping system into the repertoire of data collection strategies for Year III. This record-keeping system will also minimize the need for collecting quantitative information through interviews.

The field test also suggested some needed revisions in the IRI. Many items have been rephrased for next year, either to make them clearer to raters or to remove the instrument's dependence upon the parent survey and multiple teacher interviews. Items were also regrouped in some areas into new subcomponents to insure that there would be enough items rated in each subcomponent to yield meaningful results. While the item and judgmental scales generally provided similar ratings in the field test, there were enough differences to warrant retaining both in the Year III instrument.

# Table 1

## Field Test Results
## IRI and Subjective Ratings

| COMPONENT/ SUBCOMPONENT | Number of Items | SITE 1 | | | | SITE 2 | | | | SITE 3 | | | | SITE 4 | | | | SITE 5 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Items Rated | % Items Rated | Mean Rating | Subj. Rating | Items Rated | % Items Rated | Mean Rating | Subj. Rating | Item Rated | % Items Rated | Mean Rating | Subj. Rating | Item Rated | % Items Rated | Mean Rating | Subj. Rating | Item Rated | % Items Rated | Mean Rating | Subj. Rating |
| ADMINISTRATION | 57 | 52 | 91 | 3.1 | 3.0 | 47 | 83 | 3.3 | 3.0 | 44 | 77 | 2.6 | 3.3 | 45 | 79 | 2.8 | 3.2 | 51 | 90 | 2.5 | 2.6 |
| 1) Establish PDC Council | 29 | 29 | 100 | 3.5 | 4.0 | 28 | 97 | 3.8 | 4.0 | 29 | 100 | 3.3 | 4.0 | 28 | 97 | 2.5 | 3.0 | 28 | 97 | 3.0 | 3.0 |
| 2) Communication System | 12 | 8 | 67 | 3.5 | 3.0 | 4 | 33 | 3.8 | 3.0 | 2 | 17 | 3.5 | -- | 3 | 25 | 3.7 | 3.0 | 8 | 67 | 1.6 | 2.0 |
| 3) Staffing | 11 | 11 | 100 | 3.3 | 4.0 | 11 | 100 | 2.9 | 3.0 | 10 | 91 | 3.4 | 4.0 | 10 | 91 | 3.0 | 4.0 | 11 | 100 | 2.7 | 3.0 |
| 4) Training | 3 | 3 | 100 | 1.3 | 2.0 | 2 | 67 | 3.0 | 3.0 | 2 | 67 | 2.0 | 4.0 | 3 | 100 | 1.0 | 2.0 | 3 | 100 | 2.3 | 3.0 |
| 5) Additional Funds | 2 | 1 | 50 | 4.0 | 2.0 | 2 | 100 | 3.0 | 2.0 | 1 | 50 | 1.0 | 1.0 | 1 | 50 | 4.0 | 4.0 | 1 | 50 | 3.0 | 2.0 |
| EDUCATION | 49 | 27 | 55 | 3.8 | 3.4 | 33 | 67 | 2.7 | 2.6 | 33 | 67 | 2.2 | 1.8 | 41 | 84 | 3.6 | 4.0* | 38 | 78 | 2.4 | 2.3 |
| 1) Ongoing Discussion | 16 | 12 | 75 | 3.7 | 4.0 | 12 | 75 | 3.4 | 3.0 | 12 | 75 | 3.1 | 3.0 | 14 | 88 | 3.5 | 4.0* | 13 | 81 | 3.2 | 3.0 |
| 2) HS/Elem. Coordination | 5 | 3 | 60 | 4.0 | 4.0 | 3 | 60 | 3.7 | 3.0 | 3 | 60 | 3.0 | 2.0 | 5 | 100 | 3.6 | 4.0 | 4 | 80 | 2.3 | 2.0 |
| 3) Curriculum Development | 14 | 8 | 57 | 3.5 | 3.0 | 10 | 71 | 3.7 | 3.0 | 10 | 71 | 2.5 | 2.0 | 12 | 86 | 3.3 | 4.0 | 7 | 50 | 2.9 | -- |
| 4) Diagnostic System | 6 | 2 | 33 | 4.0 | 3.0 | 5 | 83 | 1.6 | 2.0 | 4 | 67 | 1.0 | 1.0 | 4 | 67 | 4.0 | 4.0 | 6 | 100 | 1.0 | 2.0 |
| 5) Indiv. Instruction | 8 | 2 | 25 | 4.0 | 3.0 | 3 | 38 | 1.0 | 2.0 | 4 | 50 | 1.5 | 1.0 | 6 | 75 | 3.5 | 4.0 | 8 | 100 | 1.4 | 2.0 |
| TRAINING | 91 | 49 | 54 | 3.4 | 3.0 | 57 | 63 | 2.4 | 2.3 | 48 | 53 | 2.6 | 2.5 | 73 | 80 | 2.8 | 3.5 | 58 | 64 | 2.2 | 2.3 |
| 1) PDC Concepts and Ideas | 13 | 9 | 69 | 3.4 | 3.0 | 9 | 69 | 2.7 | 3.0 | 9 | 69 | 3.4 | 3.0 | 13 | 100 | 3.2 | 4.0 | 9 | 69 | 1.7 | 2.0 |
| 2) Parent/School | 18 | 12 | 67 | 2.8 | 2.0 | 11 | 61 | 1.1 | 2.0 | 10 | 56 | 1.7 | 2.0 | 12 | 67 | 1.9 | 4.0 | 14 | 78 | 2.1 | 3.0 |
| 3) Parent/Child Develop. | 18 | 9 | 50 | 3.0 | 3.0 | 10 | 56 | 2.8 | 2.0 | 8 | 44 | 2.5 | 2.0 | 12 | 67 | 2.8 | 4.0 | 5 | 28 | 2.2 | 2.0 |
| 4) Staff/Child Develop. | 18 | 4 | 22 | 3.8 | 2.0 | 7 | 39 | 3.3 | 3.0 | 5 | 28 | 3.4 | 3.0 | 14 | 78 | 3.1 | 4.0 | 13 | 72 | 2.0 | 2.0 |
| 5) Handicapped | 17 | 10 | 59 | 3.2 | 4.0 | 13 | 77 | 3.3 | 3.0 | 13 | 77 | 1.3 | 2.0 | 17 | 100 | 2.1 | 2.0 | 12 | 71 | 2.2 | 3.0 |
| 6) Bilingual/Bicultural | 7 | 5 | 71 | 4.0 | 4.0 | 7 | 100 | 1.1 | 1.0 | 3 | 43 | 3.0 | 3.0 | 5 | 71 | 3.6 | 3.0 | 5 | 71 | 3.0 | 2.0 |
| PARENT INVOLVEMENT | 34 | 19 | 56 | 3.7 | 3.7 | 20 | 59 | 3.2 | 2.0 | 23 | 68 | 2.8 | 2.3 | 20 | 59 | 3.8 | 4.0* | 18 | 53 | 3.3 | 2.7 |
| 1) Decision-Making | 18 | 10 | 56 | 3.6 | 3.0 | 4 | 22 | 3.3 | -- | 13 | 72 | 2.6 | 3.0 | 12 | 67 | 3.5 | 4.0* | 12 | 67 | 2.1 | 2.0 |
| 2) Program Coordination | 6 | 3 | 50 | 4.0 | -- | 6 | 100 | 2.7 | -- | 4 | 67 | 2.5 | -- | 3 | 50 | 4.0 | -- | 3 | 50 | 4.0 | -- |
| 3) Classroom | 7 | 3 | 43 | 4.0 | 4.0 | 7 | 100 | 2.6 | 2.0 | 3 | 43 | 2.7 | 2.0 | 5 | 71 | 4.0 | 4.0* | 2 | 29 | 4.0 | 3.0 |
| 4) HS/Elem. Communication | 3 | 3 | 100 | 3.3 | 4.0 | 3 | 100 | 4.0 | 2.0 | 3 | 100 | 3.3 | 2.0 | 0 | 0 | -- | -- | 1 | 33 | 3.0 | 3.0 |
| SUPPORT SERVICES | 54 | 45 | 83 | 3.5 | 3.5 | 46 | 85 | 3.6 | 3.5 | 47 | 87 | 3.5 | 3.5 | 46 | 85 | 2.6 | 2.8 | 33 | 61 | 3.5 | 3.5 |
| 1) Coordination | 4 | 1 | 25 | 3.0 | 3.0 | 4 | 100 | 4.0 | 4.0 | 4 | 100 | 4.0 | 4.0* | 4 | 100 | 3.5 | 3.0 | 3 | 75 | 3.7 | 3.0 |
| 2) Assessment | 21 | 21 | 100 | 3.6 | 4.0 | 19 | 91 | 3.2 | 4.0 | 20 | 95 | 3.1 | 4.0* | 20 | 95 | 1.8 | 3.0 | 17 | 81 | 3.5 | 4.0 |
| 3) Delivery | 9 | 7 | 78 | 3.9 | 3.0 | 7 | 78 | 3.7 | 4.0 | 9 | 100 | 3.9 | 4.0 | 8 | 89 | 3.1 | 3.0 | 3 | 33 | 3.7 | 4.0 |
| 4) Training | 20 | 16 | 80 | 3.3 | 4.0 | 16 | 80 | 3.6 | 2.0 | 14 | 70 | 3.2 | 2.0 | 14 | 70 | 1.9 | 2.0 | 10 | 50 | 3.0 | 3.0 |
| HANDICAPPED | 24 | 20 | 83 | 3.9 | 3.8 | 21 | 88 | 3.2 | 2.6 | 18 | 75 | 2.6 | 2.4 | 21 | 88 | 3.4 | 3.0 | 16 | 67 | 3.8 | 3.4 |
| 1) Coordination | 4 | 2 | 50 | 4.0 | 3.0 | 2 | 50 | 3.5 | 3.0 | 2 | 50 | 3.0 | 3.0 | 2 | 50 | 3.5 | 3.0 | 2 | 50 | 3.5 | 4.0 |
| 2) Mainstreaming | 7 | 7 | 100 | 3.6 | 4.0 | 6 | 86 | 3.3 | 3.0 | 6 | 86 | 3.5 | 3.0 | 6 | 86 | 4.0 | 3.0 | 5 | 71 | 3.8 | 3.0 |
| 3) Assessment | 2 | 2 | 100 | 4.0 | 4.0 | 2 | 100 | 4.0 | 3.0 | 2 | 100 | 3.0 | 2.0 | 2 | 100 | 3.5 | 3.0 | 2 | 100 | 4.0 | 4.0 |
| 4) Training | 6 | 4 | 67 | 4.0 | 4.0 | 6 | 100 | 3.0 | 2.0 | 3 | 50 | 1.3 | 2.0 | 6 | 100 | 4.0 | -- | 4 | 67 | 3.8 | 3.0 |
| 5) Parent Involvement | 5 | 5 | 100 | 4.0 | 4.0 | 5 | 100 | 2.2 | 2.0 | 5 | 100 | 2.4 | 2.0 | 5 | 100 | 2.2 | 3.0 | 3 | 60 | 3.7 | 3.0 |
| BILINGUAL/MULTICULTURAL | 33 | | | | | 27 | 82 | 1.5 | 1.8 | 24 | 73 | 2.6 | 3.2 | | | | | 21 | 64 | 3.1 | 2.8 |
| 1) Coordination | 5 | | | | | 5 | 100 | 1.0 | 2.0 | 1 | 20 | 3.0 | 4.0 | | | | | 1 | 20 | 4.0 | 2.0 |
| 2) Training | 2 | | | | | 2 | 100 | 1.0 | 1.0 | 2 | 100 | 2.5 | 3.0 | | | | | 1 | 50 | 3.0 | 3.0 |
| 3) Classroom Activities | 9 | | | | | 8 | 89 | 3.6 | 2.0 | 4 | 44 | 4.0 | 4.0 | | | | | 6 | 67 | 2.2 | 2.0 |
| 4) Parent Communication | 6 | | | | | 4 | 67 | 1.0 | 2.0 | 6 | 100 | 1.8 | 3.0 | | | | | 6 | 100 | 3.9 | 4.0 |
| 5) Parent Involvement | 11 | | | | | 8 | 73 | 1.0 | 2.0 | 11 | 100 | 1.5 | 2.0 | | | | | 7 | 64 | 2.3 | 3.0 |
| BILINGUAL DEMONSTRATION | 56 | 36 | 64 | 3.9 | 4.0* | | | | | | | | | 48 | 86 | 3.0 | 4.0* | | | | |
| 1) Coordination | 7 | 3 | 43 | 3.7 | 4.0 | | | | | | | | | 5 | 71 | 3.6 | 4.0 | | | | |
| 2) Training | 14 | 4 | 29 | 3.8 | 4.0 | | | | | | | | | 8 | 57 | 2.5 | 4.0 | | | | |
| 3) Classroom Activities | 15 | 11 | 73 | 3.9 | 4.0* | | | | | | | | | 15 | 100 | 3.7 | 4.0 | | | | |
| 4) Parent Communication | 8 | 8 | 100 | 3.9 | 4.0* | | | | | | | | | 8 | 100 | 2.8 | 4.0* | | | | |
| 5) Parent Involvement | 12 | 10 | 83 | 4.0 | 4.0 | | | | | | | | | 12 | 100 | 2.6 | 4.0* | | | | |

*Judgmental ratings scored "5"s on original scales.

--Missing data.

Figure 8

Item Scale Implementation Rating Profiles: All Sites

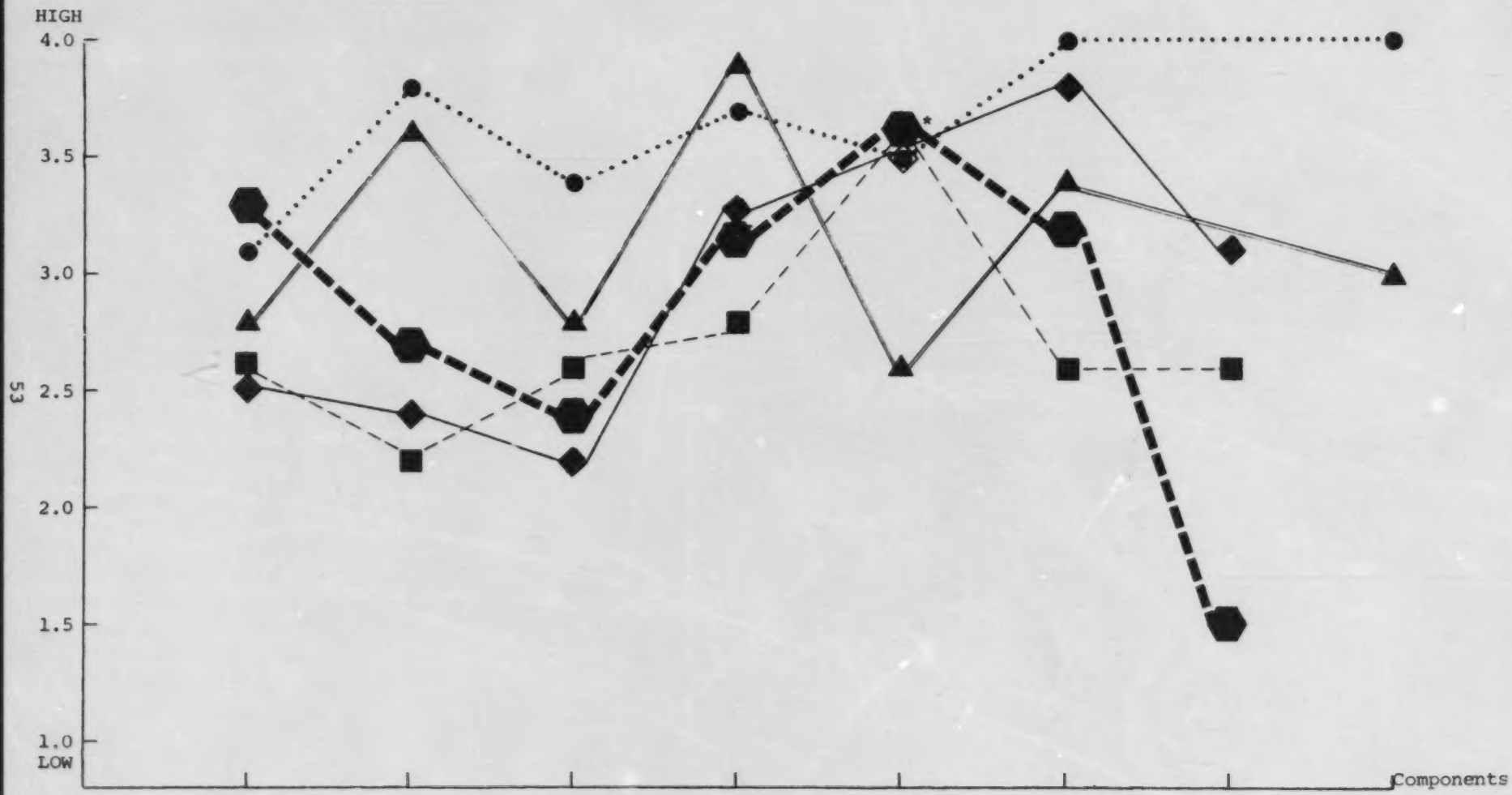
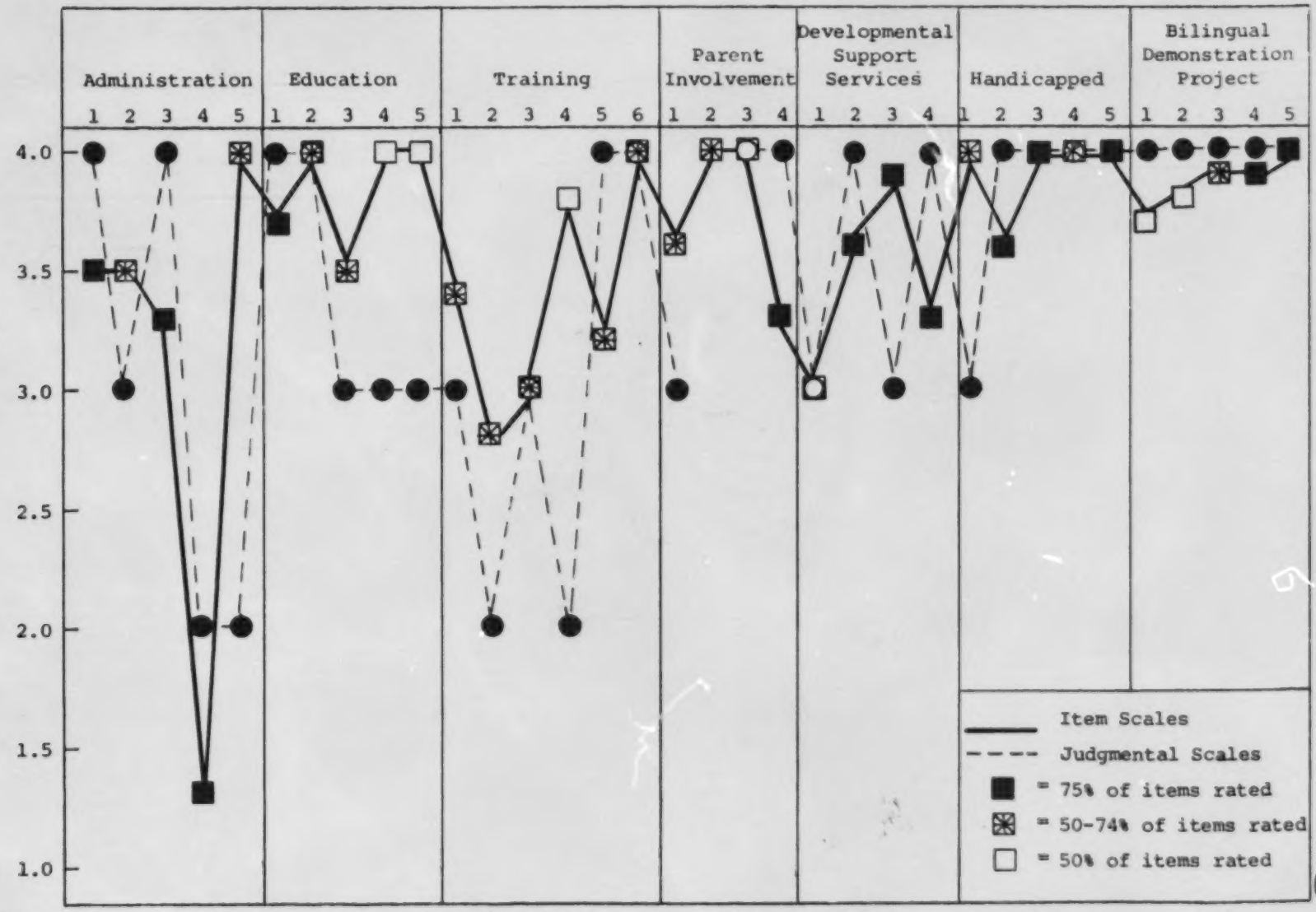


Figure 9

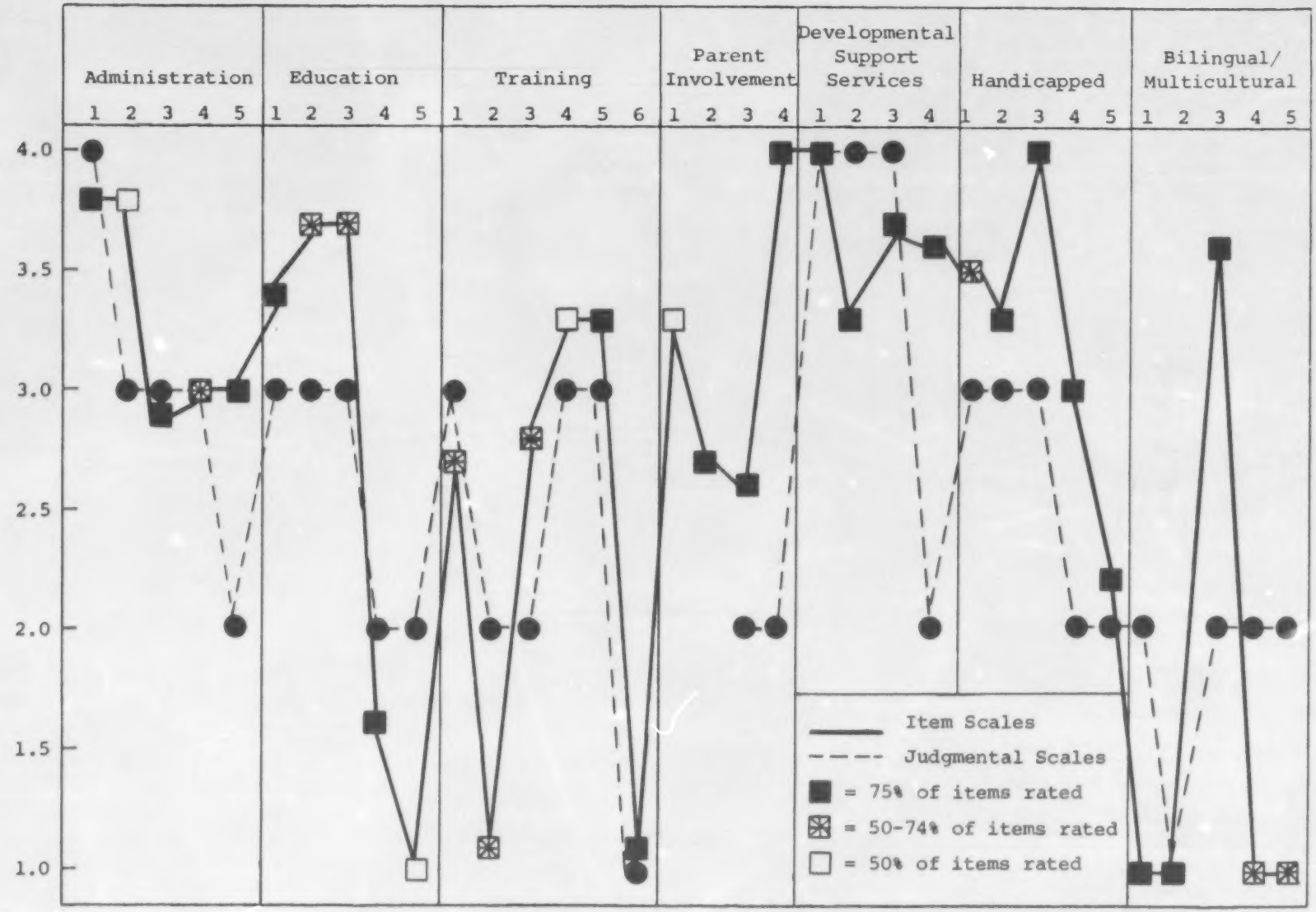
Subcomponent Item Scale and Judgmental Scale Rating Profiles: Site 1




| | | | | | | |
|---|---|---|---|---|---|---|
| Item Scale Means | 3.1 | 3.8 | 3.4 | 3.7 | 3.5 | 3.9 | 3.9 |
| Average Difference Between Scales | .9 | .3 | .4 | .7 | .7 | .3 | .7 |

Figure 10

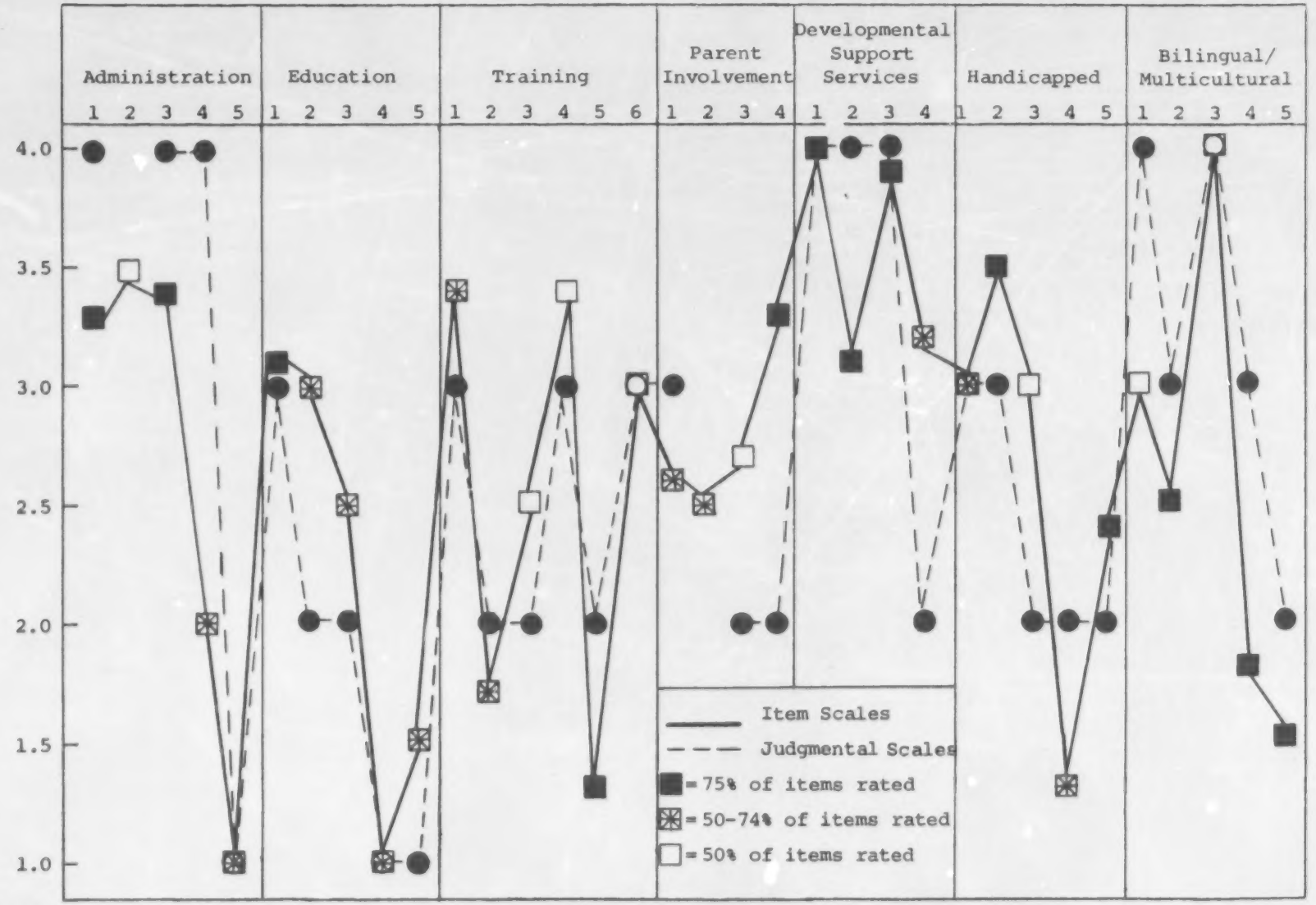
Subcomponent Item Scale and Judgmental Scale Rating Profiles: Site 2




| | | | | | | |
|---|---|---|---|---|---|---|
| Item Scale Means | 3.3 | 2.7 | 2.4 | 3.2 | 3.6 | 3.2 | 1.5 |
| Average Difference Between Scales | .3 | .6 | .5 | .3 | .7 | .6 | .9 |

Figure 11

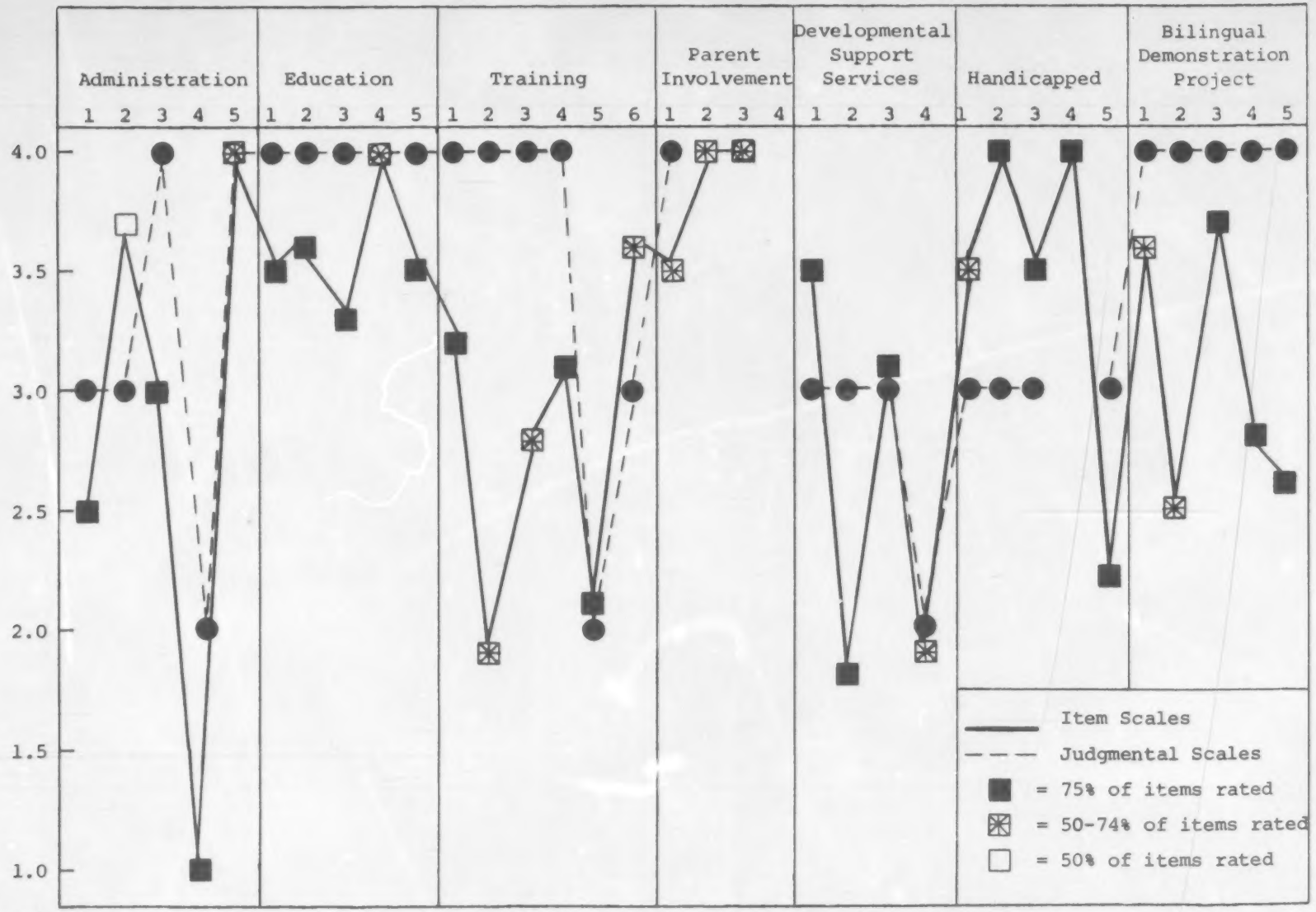
Subcomponent Item Scale and Judgmental Scale Rating Profiles: Site 3




| | | | | | | |
|---|---|---|---|---|---|---|
| Item Scale Means | 2.6 | 2.2 | 2.6 | 2.8 | 3.6 | 2.6 | 2.6 |
| Average Difference Between Scales | .8 | .4 | .5 | .9 | .6 | .5 | .7 |

Figure 12

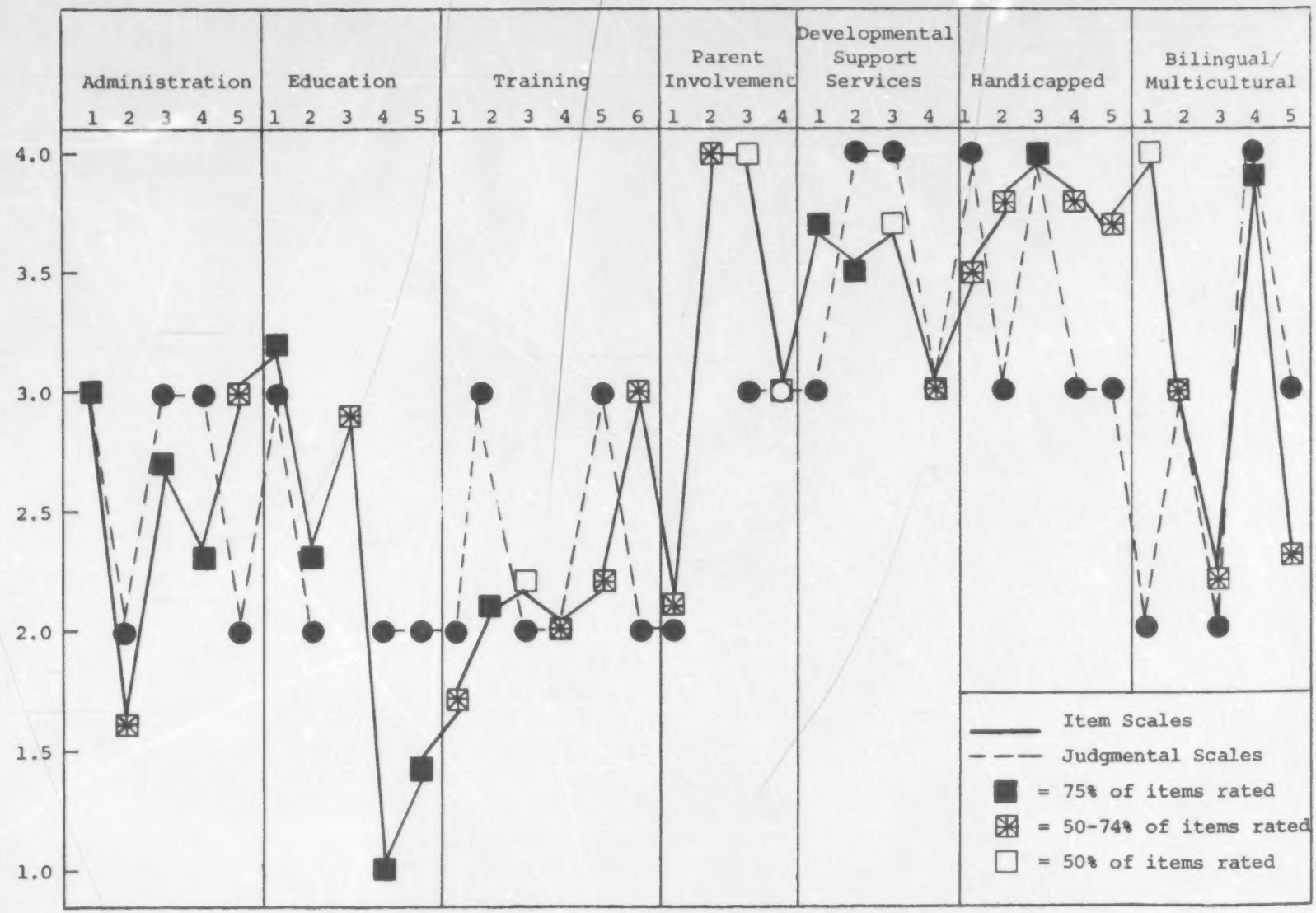
Subcomponent Item Scale and Judgmental Scale Rating Profiles: Site 4




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Item Scale Means | 2.8 | 3.6 | 2.8 | 3.8 | 2.6 | 3.4 | 3.0 |
| Average Difference Between Scales | .6 | .4 | .9 | .3 | .5 | .7 | 1.0 |

Figure 13

Subcomponent Item Scale and Judgmental Scale Rating Profiles: Site 5




| | | | | | | |
|---|---|---|---|---|---|---|
| Item Scale Means | 2.5 | 2.4 | 2.2 | 3.3 | 3.5 | 3.8 | 3.1 |
| Average Difference Between Scales | .5 | .5 | .6 | .1 | .4 | .6 | .3 |

# IV

## INTERIM ANALYSIS OF FACTORS ENHANCING OR RETARDING IMPLEMENTATION

A principal purpose of the process evaluation of PDC is to provide information so that the success of future programs can be better assured. This means that it is not only necessary to assess and describe the levels at which individual programs have implemented PDC, but also to identify the factors which account for the different levels of implementation. As described in Chapter II, this process of factor identification will be one of continuing observation and analysis of programs concurrent with efforts to measure and describe levels of implementation. Hypotheses relating factors to implementation levels began to emerge following the first planning year site visit; the list of hypotheses has been reexamined and revised continuously since then. It is expected that by the end of Program Year III some statements can confidently be made regarding the relationships between sites' organizational and process characteristics on the one hand, and levels of PDC implementation on the other. This chapter represents an interim attempt at such statements.

The objective in preparing this chapter is not to test or even evaluate each hypothesis systematically. Instead, an attempt has been made to assemble a collection of factors apparently contributing to programs' implementation, to discuss the evidence that suggested each, and to formulate a list of plausible hypotheses based on this discussion. This list will be distributed and reviewed by others in the months ahead; a revised list, based on this review, will be more thoroughly evaluated following the site visits in Program Year III.

All hypotheses presented here identify influences on program implementation which could potentially be accommodated in future program designs; hypotheses not satisfying this criterion have been omitted. Thus, there is no hypothesis here which posits a relationship between teacher support and program implementation, although such support surely seems critical for successful implementation. One could not incorporate "teacher support" into any program design or guideline requirements. It would be possible, however, to

incorporate the factors shown by experience to contribute to the creation of that support, such as involvement by teachers in planning, and voluntary participation in program activities. These latter, more operational, factors have been included here as hypotheses.

## Method

### Sources of Factors and Hypotheses

The factors and associated hypotheses described here were derived from four sources: the experience of High/Scope and Development Associates site visitors; a review of the relevant literature on educational change and innovation; PDC program staff at both the national and local level; and "hunches" by staff.

Site visit experience. Each PDC site was visited twice during the planning year and three times in Year II. Wherever possible the same High/Scope visitor has returned to a site each time to facilitate data collection and to insure that one staff person would be familiar with the development of each program. Using interviews and observations a variety of information was obtained from these visits, both about the status of implementation and the factors and events which account for it.

Visitors on the fall 1975 site visits interviewed parents, teachers, and key program staff to obtain their assessment of implementation to date and perceptions of notable problems or successes encountered. The winter 1976 site visits focused on observations of the actual operations of the various programs, both in and out of the classrooms. Interviews with key staff members concentrated upon the de facto organization of PDC at each site--who talks to whom, who gives directives to whom, and how decisions are made about changes in the day-to-day operations of the programs. Additionally, each PDC staff member was asked about his or her background and training, and about the aspects of this background which contributed most to preparing them for their current roles in PDC.

Emphasis in the spring 1976 site visits returned to the implementation of specific guideline elements. Activities at the five field test sites were described in Chapter II; at the remaining 9 sites, key participants were interviewed and asked what had happened in each subcomponent area, and why it had or had not happened. While High/Scope staff were interviewing staff at these sites about the general progress of program implementation, Development Associates staff pursued selected aspects of each program in some depth. For example, at one site the Development Associates team member investigated the site's experience in developing and implementing a PDC curriculum. Teachers, parents and

staff were interviewed to discover their perceptions of the curriculum, its effects, and problems encountered in its implementation. At another site, the role of the PDC Council was similarly investigated through observations, interviews and examination of meeting minutes.

From these diverse encounters with programs, a relatively intimate acquaintance with the process of program implementation at each site was obtained. These perceptions have been the principal source of hypotheses about the relationship between local factors and program implementation.

Review of the literature. Concurrent with these analyses of actual PDC programs, a systematic review of the literature pertaining to institutional change and innovation was undertaken. The purpose of this search was to discover factors which others have identified as contributing to the success or failure of planned innovation efforts. The sheer volume of this literature is impressive--Havelock, et al. (1971) identified approximately 4,000 references concerned with the change process, and a large portion of this literature addresses change and innovation in school settings.

Not all of this literature is equally applicable to understanding the processes of change in PDC. As Lieberman and Shiman (1973) concluded from their own review, much of the current literature describes general models, or what the change process should look like rather than how it actually operates. Practice, they found, is frequently much different and more complex than the logical sequences of change outlined by, for example, Havelock (1973) in The Change Agent's Guide to Innovation in Education. There seems to be a growing realization, in fact, that the change process is highly variable; each institution must grapple with its own unique problems and effect change in its own manner. General models are useful only to the extent that they permit specific site variables to be analyzed and provided for.

No attempt will be made here, therefore, to fit PDC into any model found in the literature; the PDC experience is too diverse for that. Instead, the literature serves as a resource for identifying factors that may have been overlooked by site visitors, and as a context for interpreting those factors which site visitors have identified. Factors from the literature which seem plausible within the context of PDC have been a source of additional hypotheses that will be examined in the Year III data collection.

Consultation with local and national PDC program staff. Throughout the current year efforts have been made to involve project staffs in this study. Both on site visits and at national conferences, coordinators and their staffs have been asked to contribute suggestions which might help the evaluation contractor identify factors shaping PDC. Many of these suggestions are reflected in this discussion.

Individuals from the national PDC program staff have also been involved in this process both formally and informally. This participation will continue in Year III, as these individuals review the hypotheses presented here.

"Hunches." As in any research endeavor, some hypotheses presented here emerged from sources not clearly identified. As guidelines were examined, certain factors which could plausibly affect implementation of specific program elements were often suggested. For example, one reader speculated that implementation of the handicapped component would perhaps be higher at sites where there were PDC Council members with direct experience with handicapped children, either professionally or as parents. Hypotheses of this nature are included here for evaluation in Year III.

## Reviewing and Evaluating Hypotheses

As stated previously, the hypotheses generated in this study cannot be truly tested with the limited sample of programs found in PDC; the most that can be hoped for is that the hypotheses will be evaluated systematically using available data, and that a methodology for testing them in a larger context can be devised. Both of these objectives require that there be a technique for measuring the dependent variables (i.e., the levels of implementation) in each hypothesis. Such a technique has in fact been developed in the IRI, and that instrument will be used at all sites to assess levels of implementation in the spring of Year III.

Prior to the winter 1975-76 site visit, hypotheses formulated at that time were analyzed and independent variables identified following the procedures outlined in Chapter II. Where the data necessary for their evaluation were not already on file, questions were added to the site visit interview forms to insure that the needed information was collected. Hypotheses were reviewed and altered following the winter visit based on this newly collected information.

The list was again reviewed following the spring 1976 site visit. Development Associates visitors to the nine non-field test sites were asked to evaluate the hypotheses related to the selected topics which they had just explored in depth on-site. The results of the reviews are reflected is the discussion presented in this chapter

## Interim Analyses and Hypotheses

In the remainder of this chapter, each factor identified as influencing program implementation will be discussed in detail. These specific factors are organized here into six general areas:

- The nature and interpretation of the PDC guidelines;
- The local educational and community context;
- Circumstances and events surrounding the introduction of PDC;
- Staffing characteristics;
- Features of program organization;
- The role of OCD and the evaluation contractor.

Absent from this list of general factors shaping program implementation is any specific mention of the two alternative approaches developed by OCD for implementing the project--the Preschool-School Linkages (PSL) and Early Childhood Schools (ECS) models. Initially, it was suspected that substantial differences in program implementation would be found among programs using the two models. However, examination of the various local manifestations of PDC has suggested that the ECS-PSL distinction is difficult to maintain; differences within models are as great as those between. At one ECS site, for example, Head Start and elementary classes are located in the same building, but administered separately, while at another the programs not only are housed in the same structure, but are also administered jointly. Therefore, it seems more likely that differences between program will be best understood in terms of their actual features, rather than their prescribed model. Consequently, "physical proximity of PDC Head Start and elementary classes" and "organizational structure of the PDC program," both component features of the two models, have been identified and discussed as separate factors.

Following the discussion of each factor and the evidence which supports it, testable hypotheses (appearing in italics) will be derived for evaluation following the data collection in Year III. Two types of hypotheses will be formulated:

- Hypotheses relating implementation in one guideline area with implementation in another. The guidelines outline a comprehensive program of educational change which affects multiple features of schools' organization and curriculum. One would expect that implementation of certain program features would facilitate implementation of other features. For example, we might hypothesize that sites which have established a functioning PDC Council would have higher implementation in the area of communication between the different participant groups in PDC. Both the independent and dependent variables in this hypothesis are requirements contained in the guidelines. While important, hypotheses of this type will be examined here only fleetingly, since such intra-guideline relationships can be identified and evaluated more readily from an analysis of the matrix of implementation rating scores to be constructed in Year III (see Chapter II).

- Relationships between program implementation and one or more features of the program's organizational structure, historical background, or community context. Each PDC program has to contend with the "culture" of the school and community within which it is to be implemented. Certain of these regularities may significantly enhance or retard the implementation of PDC. Further, the particular implementation plans and decisions made by local program staff may also affect the implementation of PDC. Hypotheses of this second type, which will be the central focus of this discussion, attempt to specify these relationships.

The nature of the relationships hypothesized here may be either pervasive, i.e., affecting implementation across all components, or specific, i.e., identifying relationships between factors and implementation in one or more specific component or subcomponent areas.

## The Nature and Interpretation of the PDC Guidelines

As Sarason (1971) pointed out, each school is a cultural system; change efforts, if they are to succeed must be adapted to the existing regularities of that system. Experience also suggests that for innovations to be successful it is essential that the goals be clearly and operationally defined for all participants in the effort. Reynolds (1973)

describes one project in which the formal proposal proved to be so vague as to be unattainable. "Key phrases tended to be couched in evocative language ('infusing the arts into the curriculum,' 'cooperative teaching and planning,' 'involving teachers in decision-making') whose meanings were sufficiently ambiguous to permit widely varying interpretations."

In designing a program for implementation nationwide, OCD had to contend with this dilemma: the guidelines had to be general enough to allow individual programs to adapt them to existing regularities and local needs, but specific enough so as to be operational. Consequently, the guidelines as written outline general requirements that can be specified locally:

> Sites may design locally appropriate methods or activities within each component area, provided that the basic principles are addressed and the required elements included. Regardless of the strategies decided upon for full component coverage, the total plan must be suitable to the particular needs of the locale, and must be satisfactory to the community. Local ethnic, cultural and language characteristics must be taken into account (PDC Implementation Year Guidelines, p. 8)

To assist programs in devising locally appropriate methods for implementing the guidelines, technical assistants were provided for each program:

> The field specialists will be responsible for working with local Project Developmental Continuity staff as facilitators in the implementation of the projects as outlined in the implementation year proposals and these guidelines. The specialists will assist Project Developmental Continuity participants in implementing the goals and objectives defined in their proposal and help them to maintain an overview of the project. Each specialist will work with site personnel to identify needs for technical assistance and jointly agree upon a role for the specialist on-site, thus reflecting the needs of the program as seen by local personnel and the field specialist. At regular intervals, the specialist will review local goals and objectives with the site participants. The specialist will work with staff who have identified problem areas, make recommendations and help to facilitate resolution of the problems. The field specialist will provide guidance and assistance in all aspects of the program either by bringing pertinent resources, including materials and people, to staff and adult participants or by referring them to the resources. The specialists will encourage local participants to solve their own problems and make their own decisions by facilitating local recognition of, and reliance on, local strengths and resources. (PDC Implementation Year Guidelines, p. 42)

Given the expressly undefined nature of the guidelines and the need for specific statements of operational objectives, the technical assistant's role as facilitator would seem to be pivotal.

Information to date on the actual roles and activities of the various technical assistants is spotty. Enough is known, however, to indicate that these activities vary considerably from site to site, with some assistants actively engaged in the comprehensive monitoring and facilitating process described by the guidelines, and others restricted to relatively specified domains. We would expect, however, and state as the first hypothesis, that as more data become available on these roles in Year III, the following relationship will be found between technical assistants' activities and implementation levels:

> *Sites at which the T&TA field specialist monitors implementation of the guidelines and facilitates local interpretation of general guideline requirements will have higher implementation levels in all component areas.*

Another feature of the PDC guidelines differentiating them from other innovation efforts found in the literature is that they are directed toward systemic changes in the local schools. Project Developmental Continuity represents more than a grafting of a new curriculum onto an existing school program, such as described by Sarason (1971); it is an attempt to effect basic changes in the structure and content of school programs.

Despite the scope and complexity of PDC, the guidelines specifically state that the program in its entirety was to be fully implemented as of the fall of program Year II:

> All Head Start through third-grade classes in the demonstration Head Start centers and elementary schools participate in Project Developmental Continuity. Implementation is total for all of these grade levels and for all component areas as of the beginning of the implementation year. Project Developmental Continuity is not a phase-in program whereby all components are implemented on the Head Start level the first year, the kindergarten level the second year, and so on, nor is it a program whereby one or two components are implemented at all grade levels the first year with other components being phased in gradually. (PDC Implementation Year Guidelines, p. 4)

Most sites have found this impossible to do, even with a planning year. The reasons lie partly in the inherent complexity and scope of the task, and partly in the fact that sites were limited during the planning year in the demands for time and effort that could be placed on future PDC staff. Often, key staff were not even hired or identified until well into the planning year. Teachers generally had classroom responsibilities to fulfill throughout the planning year; their availability for additional work was severely restricted.

Other programs recognized quite early that total implementation in the first year of all guideline requirements was impossible, and formulated plans for a sequential phasing-in of program activities. In one program, which purchased a packaged curriculum, staff recognized early in the fall that requiring teachers to implement the full curriculum was creating frustration and resistance among the teachers. They decided instead to concentrate this year upon implementation of the language arts curriculum, and wait until next year for implementation in the other subject areas.

Because insistence upon implementation of all requirements seems so often to lead to a general paralysis of the program, it is possible to suggest the following, apparently paradoxical hypothesis:

> *Sites which adopted a plan in the first two months of Year II for sequential implementation of PDC requirements will have higher implementation levels overall than those which attempted to achieve full implementation immediately.*

While all sites found it impossible to implement immediately all guideline requirements, those purchasing major components of their programs, such as the curriculum, the diagnostic and evaluative system, or a management system seem to have had less difficulty implementing more component areas. The reason for this seems to be that, since PDC represents such a massive undertaking for project staff and teachers, sites electing to adapt outside systems are able to free staff to work in other component areas, while at the same time providing teachers with a tested approach to school and classroom activities. Generally, the purchase of existing programs also brings outside consultants and trainers to the site to assist in the implementation--again freeing staff for other activities. Staffs designing their own programs

were often staggered by the burden of the task; teachers became frustrated and in some cases alienated by the demands of PDC.

While it is entirely possible that later evidence will indicate that self-designed programs are better implemented in the long run, for now the data suggest the following hypothesis:

> *Sites which purchased and adapted existing program models and approaches (e.g., curricula, diagnostic systems, management systems) will have higher levels of implementation in all component areas.*

## The Educational and Community Context

No effort at change occurs within a vacuum; "change" itself implies that existing regularities are to be altered. Yet Sarason (1971) contends that existing regularities within schools are usually ignored when innovations are attempted. The introduction of the new math into the elementary schools, he says, is typical of the usual process: the attitudes, conceptions and regularities of administrators, teachers, parents and children were glossed over in the planners' enthusiasm for curricular change. Consequently, the attempt to change that curriculum independent of changing the characteristic social and psychological institutional features of the schools was doomed to failure from the start. Lieberman and Shiman (1973) similarly concluded that typical descriptions of change in educational organizations failed to consider the "school as a culture or the individual teacher and the values and demands of his job." Others (Bidwell, 1965; Griffiths, 1964; Watson, 1969) have also noted the frequent failure of educational change efforts to consider the social organization, both formal and informal, of the schools within which change is to occur.

Just as the school is a culture, with existing patterns of organization, belief, and behavior with which innovators must contend, so too does the school exist within the wider context of the community, which also has existing norms of organization and action.

PDC, as an attempt to alter the very fabric of existing Head Start and elementary programs, is particularly vulnerable to the effects of these existing conditions and regularities. Program staffs as well as site visitors remark repeatedly on the effects these contextual factors have had on the shape of PDC.

Some of these factors are discussed here, along with resulting hypotheses. The many specific factors sort into three general categories:

- Prior Head Start-Elementary relationships;
- Pre-existing laws, policies, priorities, and programs of the district and schools;
- Demographic and socio-cultural features of the community and schools.

If one were to derive a single implication from this constellation of factors, it would perhaps be that, with the possible exception of the developmental support services component, the PDC guidelines are exceptionally difficult to implement in large urban settings. This is because several deleterious factors tend to be characteristic of urban school systems. Large cities are more likely to have complex administrative structures which inhibit communication. Head Start and elementary schools are more likely to be situated and administered separately in urban settings. Local teachers in large cities are more likely to be organized into effective unions or associations which actively regulate the demands which can be placed on teachers for time and energy. Large cities are also more likely to have other federal programs present; the community and teachers are accustomed to such programs and are less likely to become excited by participation in PDC. Further, the funds provided by PDC are often the proverbial "drop in a bucket" relative to the total budget in districts were other programs proliferate and salaries are higher. In short, the mobilization of the necessary energy, enthusiasm, and resources is much more difficult in a large urban setting, prompting this initial hypothesis:

> *Implementation of the PDC guidelines will be higher at sites located outside of major metropolitan areas (less than 100,000 population).*

One exception to this general relationship between levels of implementation and urban settings might be the developmental support services component of the guidelines. This component, in fact, appears to thrive in urban contexts. The discrepancy might result in part from the fact that the activities and services required for this component can be grafted readily onto existing programs without serious displacement of existing regularities. It might also be due to the considerable assistance required from existing agencies and service persons--more abundant in urban areas--for implementation of the full range of required services. Appropriate hypotheses for this relationship are formulated below.

Prior Head Start-elementary school relationships. The success or failure of PDC depends upon a site's success at achieving coordination and communication between the Head Start and elementary programs. Not surprisingly, this success or lack of it seems closely related to the nature of the local administrative relationships which existed between the two programs prior to the introduction of PDC. Where such relations were routinized, programs have been able to concentrate upon implementation of the substantive elements of the guidelines; sites lacking this history have been forced to expend considerable effort at achieving a relationship, or have had to settle for separate but similar programs.

The nature of the antecedent spatial and administrative relationships between Head Start and elementary programs varies considerably. At one end of the continuum are those sites where Head Start had always been an integral part of the school district program. Head Start was housed in elementary schools, administered by the building principal, and staffed by teachers with backgrounds and certificates indistinguishable from their elementary counterparts. At one such site, Head Start had been fully integrated with a preschool program the district operated for all children; teachers could not tell which children were Head Start-eligible and which were not. At another, there had for years been an Early Childhood Office in the district whose job it was to coordinate and integrate all federal and local programs for children from ages four to nine. These sites have had the least difficulty implementing the guideline requirements for linking Head Start and elementary school.

At the opposite end of this continuum are sites where historically there had been little or no contact between the Head Start and elementary school programs, either administratively or socially. Such conditions have proved particularly difficult for PDC because they have generally resulted in situations where the PDC coordinator has little authority or legitimacy at one or both levels, and has had to rely upon charisma and the good will of participants to effect changes.

Between these two extremes are sites where Head Start and elementary programs have historically been administered by the local school district, but by different offices. At one such site the two programs were housed in the same building, but because of their separate directors little cooperation or communication between staffs occurred. At another the Head Start program was administered by a director hired by the district and responsible to the superintendent, but housed on a separate campus. Communication and coordination between the two programs at this site prior to PDC was also minimal.

Finally, there are programs where the administration of Head Start and elementary programs has always been independent, but have had a history of cooperation and joint activity.

These antecedent relationships between Head Start and elementary programs appear important for two reasons. First, if coordination and communication have always occurred, a number of the guideline requirements are implemented a priori. Secondly, and perhaps most important, the closer the historical administrative relationships between the two programs, the more liklihood there seems to be that the PDC staff can be given actual status with real power within the organizational structure of each. This authority seems critical for successful implementation of most of the PDC guidelines. The following hypotheses, then, seem appropriate:

*Sites with a history of joint Head Start and elementary school administration by the school district will have higher levels of implementation than sites at which Head Start and elementary programs have been administered separately.*

*Sites where participating Head Start and elementary school programs have historically been housed in the same building will have higher levels of implementation than those where the two programs have been housed separately.*

*Sites where the continuity of educational experiences has been stressed from Head Start classes through grade three will have higher implementation levels in all areas than sites where such continuity has not been stressed.*

Pre-existing priorities, policies, laws, and programs. Besides the local history of Head Start and elementary relations, PDC must also contend with or capitalize upon the local activities, emphases, and legislation of the state, district and schools in which it is located. These factors exert a significant influence upon the shape and character of PDC implementation.

Every school district has its own educational priorities, sometimes mandated by state law. At no site are all elements of the guidelines embraced with equal enthusiasm; some are always accorded higher priority than others. At one site, for example, the bilingual/bicultural activities are perceived to be the pivotal features of PDC, whereas other guideline elements are but necessary concomitants. At another site

the reverse is true: individualized instruction and the opportunity to restructure the curriculum are pivotal, and bilingual activities are peripheral. Parent involvement provides, perhaps, the most recurrent example of the effects of local priorities on program implementation. At several sites the involvement of parents in school activities has traditionally been absent, and educational leaders see little reason to begin. Consequently, the entire area of parent involvement has received only minimal attention at those sites.

Although these local priorities are sometimes simply values permeating local educational activities, they often translate into actual program features which can either facilitate or impede the implementation of certain PDC elements. At one site, for example, the state has made a massive commitment to the mainstreaming of handicapped children. Consequently, there has been an infusion of staff and funds into the PDC school. Another district has made a similar commitment to multicultural education, and will next year place a multicultural education coordinator into the PDC schools at no expense to PDC. In both cases the priorities and consequent programs of the state and district have greatly facilitated implementation of PDC. The reverse is also sometimes true: a district-wide emphasis on competency-based education at one site siphoned almost all inservice training time from PDC, resulting in practically no training for participating teachers in the areas required by the guidelines; handicapped children at another site were removed from the PDC classrooms to participate in special centers for the handicapped.

More important even than prior or concurrent district programs or priorities seem to be the particular programs or philosophies which prevailed in the PDC schools prior to the program's introduction. Since to succeed PDC must change the existing regularities in the attitudes and activities of participants, we would expect that programs would have more success where prior commitments and activities most resembled PDC. This is especially true in sites where staff had no voice in the selection of participating teachers and teachers had no option but to participate in the program; levels of implementation in these contexts seems greater the less the teachers are required to change.

Probably the most striking example of the benefical effects of compatible previous approaches is one site which just prior to PDC had participated in the national Follow Through program. The sponsor model utilized in that earlier

program incorporated an open classroom framework with individualized instructional methods, resource staff, parent involvement, and ongoing training for teaching staff. Parent groups preceded PDC in the schools; many of the teachers were already comfortable having parents in their classes. As a result, many features of PDC were already implemented and the transition from Follow Through to PDC has been relatively painless.

Other examples of the effects, both positive and negative, of previous approaches and programs on the implementation of PDC abound. More frequent than the above example are sites where teachers who had not volunteered to participate in PDC and who were accustomed to more "traditional" instructional methodologies, were required to adopt time-consuming individualized curricula and diagnostic systems, to restructure their classrooms into learning centers, to participate in teaching teams, and to accommodate parents within their classes. Not surprisingly, resistance in such situations was common.

Evidence such as the above suggests the following hypothesis:

*Sites with pre-existing or concurrent philosophies, legislation or programs similar to those required by PDC will have higher implementation in the component areas involved.*

Less ambiguous than the effects of other programs in the schools is the effect on implementation of the resources and programs which exist in the wider community. Successful implementation of the training and developmental support services components, especially, depends upon programs' successful mobilization of existing resources in the community. Staff at sites with active developmental support services components repeatedly attribute their successes to the contributions of local physicians, dentists, and social service agencies. Similarly, sites near universities were often able to obtain training from interested faculty members.

In contrast, implementation in these areas was retarded in locales offering few such resources. One program reported that little in the area of nutrition had been done to date because they had been unable to locate a nutritionist in the community.

The following hypothesis, then, seems plausible:

*Sites where a high number of existing community resources are available will have higher implementation in the developmental support services and training components.*

Aside from the programs, priorities, and resources of local school districts, implementation of PDC also seems to be affected by the policies and regulations of the system. Programs in small districts with centralized administrations are less vulnerable to these factors, since policy decisions can be made by supportive district administrators which are tailored to the needs of PDC. PDC in larger districts, however, is often confronted by a maze of policies and regulations, often conflicting with the needs for effective implementation. In one such district, for example, it is illegal for teachers to use a curriculum other than the one provided by and sanctioned by the county. PDC staff and teachers were unable to design a curriculum specified by the guidelines.

At several sites district policies toward training complicate the implementation process. Teachers at two sites could not be required to attend training (although Head Start teachers could). Similarly, at other sites teachers could not be kept after school for training purposes. In all of these sites, staff felt that the training component of their program had been hindered considerably, resulting in lower implementation in other areas as well. Other sites provided teachers with release time and compensation for training.

Closely related to the issue of district regulations and policies is the role, if any, that the local teachers' union or association plays in the regulation of teacher activities. In several sites unions regulate the amount of time teachers can be kept after school, or the amount and kinds of activities in which teachers can be involved. At sites without teacher unions, decisions regarding program staffing and policy could be made readily and implemented without delay. At one such site compatible teachers were recruited for participation in PDC, and teachers moved from the school to accommodate the program. PDC teachers were expected to work long hours toward the implementation of the PDC curriculum and approach; stories of teachers working weekends were not uncommon. At another site with an active teacher union, teachers had to be asked

whether they were willing to devote some of their inservice training time to PDC-related training. The teachers voted against this, and as a result there has been almost no PDC training for teachers at this site. Thus, the following hypothesis:

> *Sites at which there are no teacher unions or associations which regulate the activities of teachers will have higher implementation than sites with such unions or associations.*

Demographic and socio-cultural features of the local community. As important for the implementation of PDC as the characteristics of the educational setting is the composition of the population to be served. Again, the most recurrent examples of this factor are found in the area of parent involvement. To achieve the type of involvement demanded by the guidelines requires more than the good will and persistent efforts of a parent involvement coordinator; a reservoir of available parents and cultural traditions of participation are also important. Where single or working parents predominate, parent involvement efforts seem to be seriously hampered, while sites with primarily non-working mothers or traditions of parent activity in church and school appear to have experienced considerably less difficulty.

Implementation in other component areas seems often to be affected by the density of the various target populations (i.e., bilingual/bicultural, handicapped, or Head Start children) in the PDC schools and community. One bilingual demonstration program has experienced difficulty because less than two percent of the local population have Spanish as their dominant language; another bilingual demonstration project, on the other hand, is located in a thoroughly bilingual/bicultural border city, and both staff and children are largely bilingual. Analogously, Head Start children in another project are distributed throughout the school district, resulting in, at most, three or four Head Start children in any PDC elementary classroom. Teachers in such settings are understandably less preoccupied with the problems of Head Start-elementary school continuity.

Finally, the status and attitudes of bilingual/bicultural populations vary considerably across sites, even among the bilingual demonstration programs. From the limited data available, it appears that implementation of the

bilingual/bicultural component of the guidelines is greater at sites where members of this population are represented in decision-making positions in the schools and community, and where there is an active movement within the community to maintain the language and heritage of the group.

The following hypotheses, then, seem appropriate:

*Sites with a high concentration of the target populations in the PDC schools (Head Start children in elementary classes; handicapped children; speakers of a language other than English) will have higher implementation in the components involved.*

*Sites with a greater number of bilingual/bicultural or minority persons in positions of authority within the school district (e.g., principals, supervisors, etc.) will have higher implementation of the bilingual/bicultural and/or multicultural components.*

*Sites with a lower proportion of employed mothers or single-parent homes will have higher implementation in the component areas involved.*

*Sites where minority ethnic groups are actively seeking to maintain their own language and/or cultural traditions will have higher implementation in the bilingual/bicultural and/or multicultural components.*

## Circumstances and Events Surrounding the Introduction of PDC

The literature suggests strongly that the manner in which an innovation is introduced to an institution is critical to its future success. Griffith (1964) contends that since the tendency of organizations is to maintain a steady state, any major change impetus must come from outside rather than inside the organization. This is especially true in the case of educational change programs such as PDC, where the initial impetus and funds originate in Washington, and are then meshed with local needs. Given, then, that this initial stimulus for the change program comes from outside the schools involved rather than from the felt needs of teachers, it seems imperative that school staff and administration identify with the efforts, and not feel that the program is being imposed from above. As Watson puts it, "the major problem in introducing social change is to secure enough local initiative and participation so that

the enterprise will not be vulnerable as a foreign-importation" (Watson, 1969, p. 496). Lieberman and Shiman (1973) have described the herculean effort required to persuade a school staff to accept an innovative program after it had been prematurely "adopted" by the administration without the staff having been notified. Group hostility was so strong that faculty members voted not to be involved in the proposed change.

For PDC these concerns focus attention upon the events leading up to the funding of the individual programs, and upon activities during the planning year: the amount and nature of involvement in the decision-making and planning processes by representatives from the groups to be involved in the implementation appears to have had considerable effect upon this year's implementation efforts.

Participation in initial decisions. Initially apparent in an analysis of sites' implementation experience are differences in the procedures followed prior to the planning year for (a) deciding whether to pursue PDC funding, and (b) actually preparing the funding proposal.

At almost every site the initial contact concerning the availability of funds for local PDC projects was made by the regional OCD offices to local Head Start officials. Following these contacts, however, the involvement by persons outside of Head Start in the decision process was variable. At some sites consultations were extensive: school district officials, teacher supervisors, principals, and teachers were involved in the decision to apply for PDC funding. At one site the actual proposal was prepared by four teachers and the supervisors. The involvement by potential participants at a second site was limited to principals and district officials, while only officials from the highest levels of the school district and Head Start grantee were involved in the drafting of proposals at a third.

In general, there seems to be a relationship between the extent of consultation and involvement by participants in these earliest stages and subsequent levels of implementation in the start-up year. This seems especially to be true of participation by principals. Since the primary locus for the changes mandated by the guidelines is the elementary school program, the success or failure of implementation effort depends upon active support by the PDC elementary school principal. The more these principals were involved in initial decisions about the programs, the more they appear to have felt some "ownership" of the proposed endeavors and willingness to back the decisions and efforts of the PDC coordinator. Thus, the following hypothesis:

*Sites where school district officials, principals, and Head Start and elementary school teachers were involved in initial decisions about the nature and content of proposals for PDC funding will have higher implementation levels in all component areas.*

Designation of the delegate agency. The second critical juncture in the implementation of PDC appears to be the designation of the delegate agency for the program. Again, since most changes described in the guidelines must necessarily occur within the elementary schools, the designation of the delegate agency has wide-ranging implications for the future of PDC. Sites at which the school district is the delegate agency appear in general to have experienced the least difficulty in the implementation process; sites where the school district is neither grantee nor delegate agency seem contrastingly to have experienced considerable difficulty. While in the abstract it might seem that placing responsibility for the administration of PDC outside of the local district would be an effective method for creating change in a rigid educational structure, the limited experience of PDC indicates that the prospects for real change in such contexts is rather bleak. The case of one such PDC site is instructive: because PDC was outside the control of the local administration, teachers and principals at the participating elementary school tended to perceive PDC staff as outsiders trying to "take over." This perception of PDC staff members as an outside and somewhat alien force in the school seriously diminished the ability of PDC to effect any real changes in the elementary school program.

Experience to date, then, suggests the following hypothesis:

*Sites where the local school district is in the Head Start delegate agency will have higher implementation levels in all component areas.*

The planning process. As stated earlier, PDC is a complex program directed toward widespread changes in participating schools' organization and activities. As such, the program requires, and was provided with, considerable time for the planning of implementation activities. The nature of these planning activities and the manner in which they are carried out seems to contribute significantly to the success of PDC and other efforts at innovation. Watson (1969), in analyzing factors which seem to minimize resistance in

organizations to change states that "resistance will be less if participants have joined in diagnostic efforts leading them to agree on what the basic problem is and to feel its importance." Other writers have commented on the importance of participation in the planning process by members of groups to be affected by an innovation. Gross, Giacquinta, and Bernstein (1971) researched the literature and summarized these findings:

1) participation leads to higher staff morale, and high staff morale is necessary for successful implementation (Bennis, 1966);
2) participation leads to greater commitment, and a high degree of commitment is required for effecting change (Goodlad and Anderson, 1963; Oliver, 1965);
3) participation leads to greater clarity about an innovation, and clarity is necessary for implementation (Anderson, 1964; Gale, 1967);
4) beginning with the postulate of basic resistance to change, the argument is that participation will reduce initial resistance and thereby facilitate successful implementation (Argyle, 1967; Oliver, 1965; Peterson, 1966); and
5) subordinates will tend to resist any innovation that they are expected to implement if it is initiated solely by their superordinates (Agnew and Hsu, 1960; Wigren, 1967).

In general, the conclusion seems to be that while support does not assure successful implementation, programs can only succeed when actively supported by participants; moreover, the best way to obtain that support is to insure that all participants have some "stake" in the innovation. Some evidence from PDC of this need for widespread involvement in planning has already been discussed in other contexts. Ultimately, the products of much of the planning process must be implemented in individual classrooms by individual teachers. Especially at the elementary level these changes will require some effort by teachers; the data are replete with examples of the difficulties that can arise when teachers do not feel commitment to the change. Similarly, experience suggests that PDC complicates immensely the life of the average principal; existing regularities and conventions are disrupted, and additional staff must be accommodated. The chances that such disruptions will be tolerated seem enhanced if the principals have participated in their planning.

This planning involvement seems also to create more realistic expectations in teaching and administrative staff about exactly what PDC will and will not do and provide, and about the precise nature of participants' obligations. Several sites have experienced difficulty this year because teachers and principals did not expect the level and variety of demands which the program would impose on them and their schools. At one site, for example, teachers participating in PDC believed initially that the program was primarily a device whereby they would receive additional aides and materials; they did not anticipate that they would be asked to implement a curriculum and diagnostic system radically different from what they knew, nor did they anticipate the amount of time and energy that this would entail. Consequently, they were confused and frustrated by PDC, and resistant to its attendant demands. Similarly, at another site, members of the PDC council thought initially that they would occupy the role of final decision-maker for PDC. As experience indicated that the grantee was in fact in this position, interest and activity dwindled.

This need for clarity of role expectations is also mentioned repeatedly in the literature. Jones (1973) commented on the lack of understanding of one project by the faculty members involved. They were forced to develop organizational procedures and write job descriptions with only limited knowledge of what the planners had in mind, so that no one at the implementation level saw the project as a totality.

*Sites at which teachers, parents, and administrators were involved in the planning year activities will have higher implementation levels in all component areas.*

Aside from the representation of groups in the planning endeavor, implementation seems also related to the simple quantity of time and energy devoted by sites to the planning of specific program activities and approaches. The initial accomplishment for most sites during the planning year was the establishment of a planning organization (hiring staff, forming committees, etc.). Some sites which had had a long history of Head Start-elementary school cooperation and joint administration established this organization within the first two to four months, and later activity concentrated on actually designing the substance of their programs. At other projects--generally larger ones with limited Head Start-elementary cooperative experience--the organization of the planning effort itself became a major activity; other, more substantive planning activities were delayed, sometimes until the start-up year. Unplanned activities obviously have little prospect for implementation, and thus the following hypothesis:

*Sites at which the planning of the PDC program began early in the planning year will have higher levels of implementation than sites where such planning began later.*

*Sites at which a higher number of PDC planning tasks were completed during the planning year will have higher levels of implementation in the component areas involved.*

## Staffing Characteristics

A major task for each program prior to the implementation year was the selection of individuals who would participate as staff, teachers, and principals. The manner in which these individuals were chosen and the varieties of backgrounds selected, seem to have had a significant impact on the later development of PDC at each site. The attention accorded the selection of staff, however, seems to have varied considerably across programs.

Selection procedures. The procedures for selecting principals were similar at most sites and involved OCD staff in a process to identify principals congenial to the planned innovation. The selection procedures for PDC staff, on the other hand, were quite variable, but analysis to date suggests no clear relationship between the manner of selection and subsequent implementation experience.

The procedures used for selecting teachers, if any, appear both variable and significant. The importance of teacher support for PDC or any planned innovation has been emphasized repeatedly both here and in the literature (Sarason, 1971; Watson, 1969). While many factors contribute to the creation of this support, voluntary participation by teachers appears to be among the most pivotal. Sites where teachers were actively recruited or given an option to participate in the innovation seem regularly to experience the least difficulty in implementing PDC--especially in the areas of training and education.

The nature and extent of choices given to teachers varied considerably across sites and was determined in part by existing district and union policies and regulations. At one site, which had a strong central administration and no teacher union, the entire teaching staff was hand-picked from schools throughout the district. The director of instruction, PDC coordinator, and in some cases the instructional supervisor for PDC identified teachers they felt would be amenable to the radical changes proposed by PDC. Each teacher was identified, then interviewed separately

and given the option to participate in PDC. Consequently, the teaching staff at this site, from Head Start through third grade, has in general been enormously supportive of PDC, and has worked long and hard for successful implementation.

In contrast to this site, several others simply informed existing teaching staffs that PDC would be coming to their schools and implemented in their classrooms. No options were presented. It appears that at these sites PDC has had the least impact on existing classroom practice. At one such site the PDC coordinator is perceived by staff as a resource person much like several others who can be called upon for providing aides, assistance and materials.

Between these two extremes are several sites where teachers were informed that PDC was to be implemented in their school and given the option to transfer if they found the planned innovations objectionable. At several such sites this option meant for many that they would have to move from a school where they had been teaching for years; consequently, several teachers opted to remain in PDC to avoid moving even though they were less than committed to the planned changes.

Four specific hypotheses can be derived relating selection procedures for PDC teaching staff and levels of implementation:

*Sites with formal selection/recruitment procedures for PDC teachers will have the highest levels of implementation in all component areas.*

*Sites where teachers could opt for or against participating within the PDC program while still remaining in the school will have slightly lower levels of implementation in all component areas.*

*Sites where teachers were given the choice of participating in PDC or transferring to another school will have lower levels of implementation in all component areas.*

*Sites where teachers were given no option as to participating in PDC will have the lowest levels of implementation in all component areas.*

Backgrounds of staff, teachers and principals. Much has been written concerning the importance of skillful leadership for the implementation of planned innovations. Attempts, however, to identify the intellectual and personality traits necessary for successful leaders have generally proved unsatisfactory. Novotney (1973), for example, reported that only five percent of the traits listed in 106 studies appeared in four or more of the studies, while Havelock (1971, p. J-22) asserts that "there are no characteristics of leaders that hold up over different types of situations."

The coordinators and key staff members of the various projects represent a variety of backgrounds and skills. The guidelines specify only that PDC coordinators shall be experienced in administration, knowledgeable in the fields of child development and preschool and primary education, and familiar with teacher training and community services. Most coordinators satisfy these requirements to varying degrees.

The data suggest, however, that these characteristics alone are not sufficient; staff and especially coordinators need also be skilled and experienced agents of institutional change. The difference between an administrator of established programs and an implementor of innovative programs is one frequently noted in the literature (Bentzen and Tye, 1973; Havelock, 1971). The change agent must be especially conscious of the system with which he or she is interacting; he or she must know and understand existing regularities in that system, and be able to plan appropriate steps to alter them. Because PDC is so frequently outside the established lines of authority in the schools, coordinators often rely upon the informed devices of charisma, influence and persuasion to effect changes. At several sites the seeming inability of coordinators to understand the existing system and to manipulate it through these informal channels has resulted in active antipathy toward PDC by teachers and administrators, and a consequent paralysis of the total implementation effort. Further, since coordinators and staff must so often depend on these informal devices, those intimately familiar with the school system and personnel from extensive prior experience in the district seem also to experience greater success at installing PDC.

Three characteristics, then, seem important for PDC staff and coordinators to possess: (a) technical skills in the areas specified by the guidelines; (b) skills and experience as agents of change; and (c) familiarity with the local educational system and personnel. Thus, the following hypotheses:

*Sites at which key staff have had previous experience successfully implementing programs of educational change will have higher implementation levels in all component areas.*

*Sites with key staff members drawn from and familiar with the local community will have higher implementation levels in all component areas.*

*Sites with key staff members with extensive experience and technical skill in the various guideline areas (e.g., special education, bilingual education) will have higher implementation levels in the components involved.*

Identifying the optimum background for a parent involvement coordinator has proved particularly vexing to some sites. At some, parents long active in schools as PTA presidents, etc., were hired; at others outreach workers from the local Head Start program were selected; one site hired a former school nurse to be its parent involvement coordinator. In general, it appears that the parent involvement coordinator position requires experiences and skills not generally acquired simply through previous activity in the elementary school PTA; because it is at the interface between school and community, intimate knowledge of the community alone does not suffice. The parent involvement coordinator must be equally adroit at dealing with parents, administration, teachers and social service agencies. In most PDC communities it appears that Head Start is the best source for individuals possessing such skills and experience; sites with parent involvement coordinators from Head Start appear to be having greater success in the area of parent involvement. However, the one site with perhaps the most active parent involvement component has as its parent involvement coordinator a former school nurse. When asked what aspect of her training or previous experiences had helped most in her current role she replied that her years as a school nurse had done the most because the school nurse is the only person in traditional school settings who has to learn to deal not only with parents, but also with teachers, administrators, and the local social service agencies.

Characteristics of participating teachers in PDC are equally variable. The evidence generally suggests that younger teachers with fewer years of teacher experience have less difficulty adapting to the sometimes radical changes wrought by PDC. At one site where teachers were handpicked for PDC, several older teachers were included because the district director of instruction felt strongly that if PDC were to provide a model for district-wide restructuring of

schools it would have to succeed with a representative population of teachers. To date, this site has experienced more difficulty with the more experienced teachers than with those with fewer years in the schools. The experienced teachers have had more difficulty altering their own "existing regularities" (Sarason, 1971) to conform to the demands of PDC. The following hypothesis is suggested:

*Sites with teaching staffs with the fewest mean years of teaching experience will have higher implementation levels in all classroom-related component areas.*

Prior experience by teachers in the techniques of instruction advocated in the guidelines seems understandably to contribute as well to successful implementation. Most of the staff of one PDC program had previously participated in the national Follow Through program; their transition to PDC has been relatively painless. Similarly, the teacher in another program who has had least difficulty with PDC had earlier taught in a British Infant School. This leads to the following hypothesis:

*Sites with the most teachers experienced in instructional approaches analogous to those of PDC will have the highest implementation levels in all classroom-related component areas.*

Continuity of PDC staffing. Once selected, it seems important that there be a continuity of staffing; sites at which PDC staff, teachers , or administrators have been replaced appear to have experienced some difficulty at maintaining implementation progress. At one site, the injury of the parent involvement/developmental support services coordinator, and her consequent absence from the program seriously hampered implementation efforts in those components. Staff at other sites have also been replaced, either because of death, termination, retirement or transfer. In every case implementation seems to have been impaired.

*Sites at which there has been a continuity of staffing will have higher implementation levels than sites at which staff have been replaced.*

Features of Program Organization

The manner in which the various PDC programs were organized--their articulation with the existing Head Start and elementary schools, the roles and duties assigned to different participants, the lines of communication and authority established, and the clarity with which participating groups understand each--provide the structure within which the substantive PDC activities occur. Numerous features of this organization are outlined in the guidelines, although specific manifestations of these basic features were left for sites to develop locally. Thus, for example, the guidelines require that "a formal system for involvement of PDC staff in the administrative structure of the school must be operational" (p. 10); they do not, however, specify what this formal system should look like.

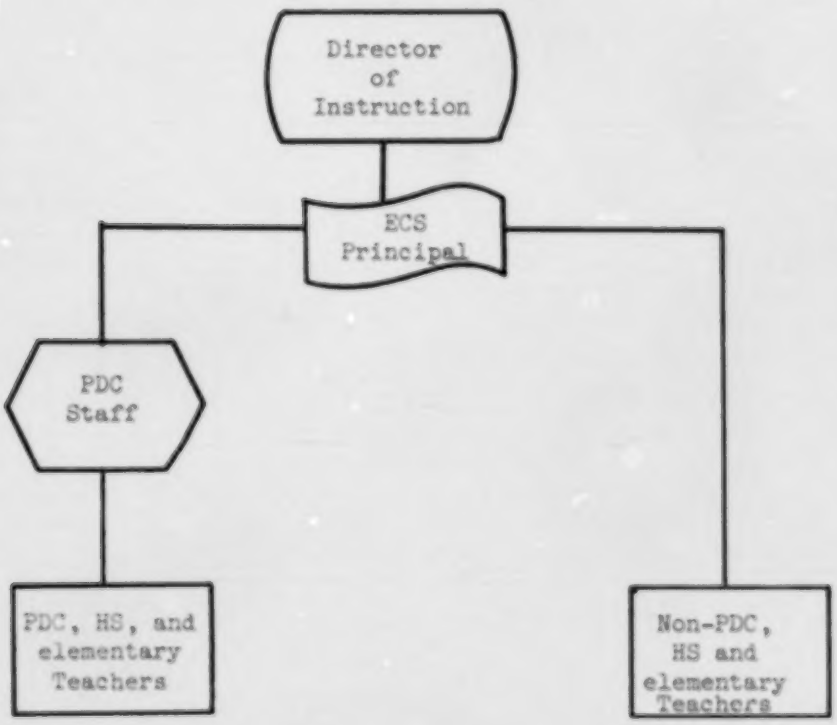
Programs were constrained in their selection of organizational structures by the structures which pre-existed in the schools and community prior to PDC. Some of these constraining factors have been described already. Sites, for example, where Head Start and PDC had traditionally been under separate administrations had fewer options than those where both had been administered from the same office. In the former cases the lines of authority were generally less clear and whatever authority the PDC staff had was generally derived from the charisma and influence of the individuals involved.

In any event, whether the product of circumstance or design, the manner and clarity with which local sites delineated these lines of authority, communication and responsibility appears to have contributed greatly to the overall implementation effort on-site.

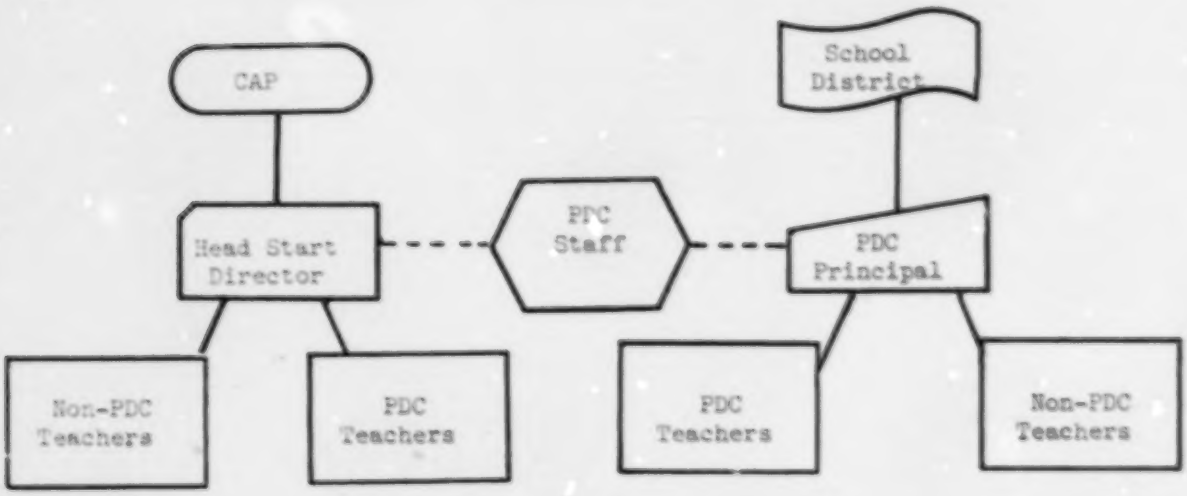
Lines of authority. As mentioned several times previously, PDC as outlined in the guidelines mandates substantial changes in existing school programs. At most sites the implementation of the required educational approach alone necessitates substantial modifications in existing classroom structures and an altering of entrenched teaching behaviors. The evidence suggests strongly that, to succeed, those charged with the implementation of those changes--the PDC coordinator and staff--must have the organizational "clout" necessary to deal effectively with sometimes recalcitrant teachers.

Authority can, it seems, be derived in a variety of ways, and sites vary considerably in the amount of attention

devoted to its definition. At one ECS site, for example, where Head Start and elementary school programs had long been administered jointly by the building principal, the PDC coordinator was formally appointed as the equivalent of an assistant principal in charge of the PDC teaching staff. Lines of authority and communication were carefully drawn by the district director of instruction, the principal of the ECS school, and the PDC coordinator; each clearly understood the extent and limits of their own and others' authority. The PDC coordinator is responsible for all classroom activities in PDC; the principal is concerned only with building administration related to the logistical support of PDC. All decisions concerning staffing and educational activities in the PDC classes are made either by or in consultation with the PDC coordinator. Authority to implement change at this site, then, was formally bestowed by placing the PDC coordinator within the hierarchy of the school. The organizational structure of this and similar programs could be mapped as follows:



At most sites, and particularly at PSL sites, the lines of authority seem to have been defined much less carefully. Frequently, PDC occupies a kind of organizational limbo with respect to either or both the Head Start and elementary school programs. When teachers and PDC staff were asked during the winter site visit how PDC staff would proceed if they observed something they wished changed in a PDC class, at most sites the reply was that the staff could make suggestions to the teacher involved, or go to the principal (or Head Start director) and ask that the teacher be directed to make the changes. In some cases, depending on their background and previous acquaintance with a given program, the PDC coordinator could go directly to the teacher at either the Head Start or the elementary level and give directives, but with few exceptions such as the one described above, the PDC coordinator could not move with equal authority in both programs. Organizationally, then, the structure of these programs was something like the following:



In some cases sites compensated for this lack of formally defined authority by enthusiastic and active support from either the principal or Head Start director. At one such site, the principal, through his support, provided the coordinator with substantial de facto authority over activities in PDC classes; the coordinator could issue directives to teachers because she and the teachers knew that the principal would support her. Visable support and commitment from district officials similarly bolstered that authority.

Where administration support is lacking or less than enthusiastic, the PDC coordinator is severely restricted in the amount and types of changes that can be made in the classroom. At one site, for example, the coordinator is perceived by teachers as essentially a resource person, distributing aides and materials to supplement ongoing classroom activities but lacking any authority to insist upon real changes by the teachers.

At sites where PDC staff lack real authority or influence over teachers implementation efforts seem to have focused on the parent involvement and developmental support services component areas which do not require substantial alteration of classroom practice, and instead provide additional--and often welcome--services and volunteers to the school.

From these considerations, then, come the following hypotheses:

*Sites at which the PDC coordinator has formally defined positions of authority within the organizational structures of the Head Start and elementary programs will have higher levels of implementation in all component areas. Implementation will be especially high in the education, bilingual/bicultural, and handicapped areas.*

*Sites at which the PDC program and staff enjoy the full and active support of district officials, the elementary school principal, and the Head Start director will have higher implementation levels in all component areas.*

Division of labor and responsibilities. While the PDC guidelines specify certain staff positions which must be filled and responsibilities which must be delegated, the actual staffing patterns selected by sites to comply with these requirements vary considerably. At several sites the PDC coordinator has become the key person; when site visitors ask to speak with the person most knowledgeable about activities in each component area, the coordinator is the principal person interviewed. At other sites, duties and responsibilities are distributed widely among paid PDC staff, council committees and teachers. In general, it appears that implementation progresses most rapidly when tasks and responsibilities in the various component areas are assigned to different individuals, with no one person being responsible for more than two components' implementation and many people involved in the actual work. Besides distributing the tasks necessary for implementation, such decentralization also seems to spread identification with PDC and understanding of its goals more widely among Head Start and elementary school teachers, parents and administrators. At one site, for example, where a single person assumed sole responsibility for the preparation of a multicultural curriculum, teachers and administrators were hesitant to implement it, and lukewarm in their support for it. Interviewed later, the author of the curriculum stated that a far better procedure would have been to involve teachers in the writing and review process early, and then present the curriculum to the school principal for review and approval.

Several sites have opted for divisions of labor different from those described in the guidelines. Two sites have essentially co-coordinator organizations, accomplished by expanding and redefining the roles of subordinate PDC staff persons. At one such site the co-coordinators are each associated more closely with either the elementary or Head Start programs; at another, one co-coordinator administers the program while the other assumes the role of instructional leader. Other sites have divided duties within components somewhat differently than anticipated in the guidelines. For example, the developmental support services component at one has been apportioned so that the school nurse coordinates the health-related aspects of implementation, while the parent involvement coordinator directs the delivery of social services. While these different divisions of labor are perhaps adaptive at these particular sites, no plausible hypotheses relating such divisions to implementation in general are apparent at this time.

A final factor which appears to contribute greatly to the implementation of PDC across sites is the assignment of component responsibilities to a single individual for both the Head Start and elementary levels. At several sites component responsibilities are assigned to one person at the Head Start level and to another at the elementary. Implementation at such sites seems almost invariably to suffer: the two programs remain discrete with very little communication or coordination occurring.

Four hypotheses, then, seem plausible:

*Sites at which the implementation of each component is assigned to a particular individual will have higher implementation in the components so assigned.*

*Sites at which no single individual is responsible for the implementation of more than two components will have higher implementation in the component areas so assigned.*

*The greater the number of individuals involved in the planning of component implementation strategies, the higher will be the implementation levels in those component areas.*

*Sites at which a specific individual is responsible for the implementation of a given component at both the Head Start and elementary levels will have higher implementation in the component areas so assigned.*

Lines of communication. Aside from establishing lines of authority and responsibility, sites must also in their organization address the formal or informal lines of communication that will prevail during PDC. More attention is devoted in the guidelines to this issue than any other; the necessity for establishing these channels is continually reiterated. Gross, et al. (1971) in their review of the research echo these concerns. They emphasized the crucial significance of full communication and understanding between teachers and administrators at every stage of change:

> Administrators, then, need to be aware of the importance of anticipating the difficulties that are bound to develop in the course of [planning and implementing] change efforts, and the necessity of creating feedback mechanisms that will ensure that problems being encountered are aired and heard; they then need to work with their staffs to analyze and resolve these problems. (Gross, et al., 1971, p. 212)

The evidence from PDC seems to justify the considerable concern expressed by OCD in this domain. At almost every site which has experienced difficulties of a paralytic nature in the implementation process, a failure of communication is a prime factor identified by participants to explain these problems. Quite often these problems arise from pre-existing communication gulfs caused by the district's organization of participating programs. Sometimes communication failures are a result of incompatibilities between key individuals on the project caused by differences in personality, subculture, or social class. Often the difficulties result from simple oversights by project staff.

In general, sites at which a formal system for regular and frequent communication between participating groups has been established have encountered the fewest problems in this area. One site, for example, at which a commercial curriculum model is utilized has weekly meetings of a "program improvement committee" composed of representative teachers and parents, the ECS principal, the PDC staff, and rotating teacher representatives from each grade level. All aspects of the PDC program are discussed in these meetings, and each representative is expected to report issues and decisions to their constituents the following day. Further, specific channels of communication between teachers and staff have been established at this site and others; teachers with difficulties or concerns know precisely with whom they should speak. This evidence suggests the next hypothesis:

> *Sites at which procedures for frequent and regular communication between all participating groups have been formally established will have higher implementation in all component areas.*

It should be noted, however, that while the evidence indicates the need for formal communication channels, informal channels are not unimportant; the evidence simply suggests that informal communication is more functional when formal channels also have been established.

## The Role of OCD and the Evaluation Contractor

As an experimental program, PDC implementation efforts have been exposed to constant monitoring and scrutiny by the Office of Child Development and the evaluation contractor. Because most programs have experienced similar demands and inconveniences, however, few hypotheses relating OCD and evaluator activities with differential levels of implementation can be formulated.

These activities have not, however, been without impact on program implementation. At several sites misunderstandings both minor and major have arisen with OCD over program and funding requirements. One site, for example, gave up the substantial funding of an existing Follow Through program in the belief that PDC funding levels would be comparable. When this funding in fact turned out to be substantially less than expected, the administration and teachers at the school involved were forced to proceed with a program which to them represented something less than that to which they were accustomed.

Other sites encountered difficulties with participating principals and teachers, precipitated by similar misunderstandings over the levels and allocation of funds. Participants in several programs said that they were led to believe that PDC would provide substantial money for new materials and supplies, only to find later that very little of the overall budget was allocated for such uses. Several sites also expressed concern over the lack of specification in the PDC guidelines and the failure of OCD to make these requirements more clear.

The role of the evaluation has been similarly noticeable in the implementation of programs, although again because evaluation activities were much the same at all sites, hypotheses are difficult to formulate. Each site was visited three times this year for periods of up to a week each by teams of from one to four visitors. During these visits program staff often had little time for any implementation activities. Additionally, sites were asked on several occasions during the year to provide the contractor with substantial amounts of information about their site. Several sites have commented that these demands affected their efforts at implementation somewhat this year.

One area in which the evaluation does seem to have exerted a differential effect upon sites was in the area of sample size requirements. Because the impact component of the evaluation is designed to determine the feasibility of longitudinal research involving PDC, it was necessary that sites include sufficient numbers of Head Start children to insure a sample of 30 children after five years. To satisfy this requirement some programs had to enlist several elementary schools in the program. One site, for example, now has four elementary schools participating in PDC; others have two. With each school added to the program, the complexities of communication and coordination seem to increase geometrically and the strain on resources is magnified greatly. The following hypothesis, therefore, seems in order:

*The more teachers, children, classrooms, and schools participating in PDC, the lower will be the levels of implementation in all component areas.*

## Conclusion

It must be emphasized that the preceding discussion is necessarily tentative, and based on an incomplete analysis of available data. As program Year III progresses, the factors and hypotheses identified here will no doubt be modified based on additional evidence and review by those knowledgeable about the implementation of PDC on-site.

One focus in the year to come will be the interaction of the various factors on this list. It is unlikely that any of these factors produce the same effects upon programs' implementation in all contexts. For example, it was suggested here that implementation efforts are generally more successful at sites where the activities proposed by PDC closely resemble those which preceded it in the schools. This may not always be true. There is some evidence that in situations where teachers are handpicked, where coordinators have substantial authority, and the program enjoys the full support of principals and district officials, implementation is more successful if the program differs radically from what existed previously. In such situations the cohesiveness and enthusiasm of teachers seems magnified by a feeling that they are participating in a novel program that for the first time is in accord with their own philosophies of education. If true, then, the factors discussed here may not be additive at all; a given factor may affect implementation quite differently depending upon the other factors present.

From the evidence acquired thus far, however, it can be concluded that the implementation of PDC across all sites is perceptibly and recurrently influenced by some identifiable factors. To be sure, the relationships between factors and implementation are not simple and the presence or absence of any one neither makes nor breaks a program. But it does appear that the successful implementation of a given program can be better assured if an attempt is made to accommodate in its design at least some of the factors that have been suggested here.

V

# COST STUDY INTERIM REPORT

An integral part of the evaluation of Project Developmental Continuity is the study of program costs. Development Associates, Inc. (DA), as the subcontractor to the High/Scope Foundation, has been responsible for the design and implementation of the Cost Study. The collection of program costs began at the local site level July 1, 1975. The design calls for program cost data to be collected from the experimental sites over a two-year period ending June 30, 1977, and from comparison schools and centers for the period from July 1, 1976 through June 30, 1977.

DA cost specialists have made two trips to each of the experimental sites. The first visit was during the late summer of 1975 for the purpose of installing the cost collection system. A second round of site visits was conducted in early 1976 to make sure the sites were keeping proper records and to test out the procedures DA developed for the first implementation year cost collection, scheduled for the summer of 1976.

This chapter on the cost system will: (1) review the approach and methodology for the experimental sites; (2) outline the approach and methodology for the comparison schools and centers; and (3) review the results of the second round of site visits mentioned above. The only cost data that will be reported are six-month data on actual PDC funds expended during FY 1976. These data were collected as a byproduct of the second round of site visits and are reported only as an illustration of the cost system. The next round of site visits to occur during the late summer and fall of 1976, and to be reported in November 1976, will include the full range of data being reported under the system for experimental schools. Cost data on both experimental and comparison schools will be collected and reported only in the final report of the PDC evaluation.

## Approach and Methodology for Experimental Sites

Virtually all OCD national demonstration programs are critically concerned with acceptable program costs as well as effectiveness of the provided services. While there is no upper limit placed on program effectiveness, there are finite limits in acceptable program costs. Thus an important aspect of the evaluation is to develop estimates of the additional costs of the special features of PDC activities for both early child development programs (principally Head Start) and for school systems' regular programs. Further, an accurate estimate of what it will probably cost to replicate PDC in other areas throughout the country is important for OCD planning purposes. Indeed these "replication costs" factors were an underlying concern in the design and implementation of the Cost Study and strongly influenced both the approach and methodology for the cost collection task in the experimental sites.

The approach and methodology used in the cost collection for PDC are based on a similar methodology currently being used to examine another OCD experimental program, the Child and Family Resource Program (CFRP). The CFRP cost data collection system was developed by Development Associates and provided two years of experience on which the PDC Cost Study could build.

In the design of both studies, the difficulty of uniform cost collection between diverse program sites has been a major issue. This is not unique to PDC and CFRP, but is also the case for most other social programs that strive to ascertain the "true" cost of program resources. In the case of PDC, these resources not only include the grants given to foster PDC, but also include the resources of the Head Start and elementary schools involved in the program. PDC also has a charge to mobilize community resources in support of the program goals. Thus, in addition to the usual array of public social service agencies, individuals in the PDC communities--doctors, dentists, parents, civic clubs, and businesspersons--are also considered to be contributing resources to the PDC program and as such should be included as part of the "true" cost of the program. As a result, a major challenge to the cost collection system is to collect and report as accurately as possible these "true" costs across communities.

A final consideration in the design approach was an awareness of the limits of staff time that could reasonably be applied to developing and reporting cost data. Therefore,

in designing the system, DA attempted to be sensitive to the "real world" of the project site staff. The goal was a Cost Study design that would not place undue hardships on site personnel to keep detailed records of every resource used. To do so could seriously hinder the efforts of the limited staff available to the program sites. While the design selected does impose a reporting requirement on local site personnel, it is minimal and directed towards collecting program cost data required by OCD as well as being useful to each project. A brief outline of the aproach is presented below.

In deciding upon an approach, an overriding procedural consideration of the DA cost specialist was the fact that the experimental sites are all different. They have different accounting systems, different ideas about what PDC is all about, and different resources to use in reaching their goals. This was expected because the spirit and nature of PDC encourages the accommodation of differences. As a result, the approach to cost collection has to allow for these differences and at the same time make it possible to record them consistently. In the end, the approach must permit comparisons within each program (i.e., between program components) and between all programs. The approach taken, therefore, had to rely on two basic concepts:

- Standard cost data collection and reporting; and
- Standard definitions.

## Standard Cost Data Collection and Reporting

Using CFRP experience, it was considered fundamental that recording of project costs be done at the experimental site level. Only the persons operating the program on a daily basis know what resources are being used. Therefore, standard worksheets and forms developed for the collection of data were devised for use by site personnel. Further, to meet the requirements of OCD, these forms and worksheets were based on standard line items, categories, programmatic categories, and resources.

## Standard Definitions

In developing and implementing a cost collection procedure in all sites, standard terminology was extremely important in order to collect comparative information across

all sites. The more detailed the definition of a term, the easier it is to place a cost factor in its proper category, because the judgment required in each case is reduced. Precise definition also aids in identifying items to be collected. Thus, standard definitions of components were developed directly from the PDC guidelines and specified as clearly as possible.

The basic methodology used to collect PDC cost data calls for completion of ten tasks, each of which is outlined briefly below.

TASK 1--Review OCD Requirements

Guidance in the contract work statement required that cost data be collected by program component. It also specified that the cost data collected from the experimental schools and centers be comparable to costs collected from comparison schools and centers. These two requirements set the stage for the next task.

TASK 2--Design the Cost Collection System

Various alternatives were examined to accomplish the scope of work required. The approach chosen relied on local cost data coordinators to keep records of resource donations to the program, and to coordinate the reporting of staff time utilization by program component twice each quarter. The design called for early training of these key data coordinators as well as for the entire program staff at each site in the cost collection principles. Maintenance of the system through the regular review of records mailed to the DA cost specialist staff and on-site monitoring were also vital aspects of the approach. The design then called for DA cost specialists to collect actual program expenditures directly from program financial records at the end of each year. The cost data collection system developed appears in Figure 14.

TASK 3--Field Test Design

During June 1975, the design was tested at two program sites to assure that expectations were realistic and that necessary records would be available. Checks were made to make sure the procedures developed were compatible with grantee accounting systems. The field test raised no serious problems.

Figure 14

COST DATA COLLECTION SYSTEM

| PHASE I | PHASE II | | PHASE III | | PHASE IV |
|---|---|---|---|---|---|
| Site Training | Program Records | Program Reports | DA Monitoring Visits | DA Data Collection Visits | Data Data Analysis & Reporting |
| DA Cost Specialists visit each site to train local cost data coordinators in cost collection procedures. Also to orient other appropriate site personnel. | Local cost data coordinators record PDC non-cash donations monthly and collect and review staff time utilization logs from PDC staff twice each quarter. All records mailed to DA as a quarterly report. | DA Cost Specialists review quarterly reports mailed to DA and coordinate the correction of errors with local cost data coordinators by phone and/or mail. | DA Cost Specialists visit each site (January-March 1976) to review the record-keeping procedures and to provide additional training and technical assistance. | DA Cost Specialists visit each site once each year to collect actual PDC cash expenditures and to assist in allocating each expenditure to the proper program component. Also review record-keeping procedures and provide additional training and technical assistance as required. | DA Cost Specialists consolidate data from PDC non-cash donation forms, staff-time utilization logs, and actual cash expenditure records on an annual basis. The cost specialist then prepare categorical cost sheets for each program site. The data are analyzed within and between programs and the cost report is prepared and submitted to OCD. |

101

TASK 4--Finalize Cost Collection Manual and Instruments

To establish procedures for implementing the cost system at each site, a Cost Study Manual was prepared to familiarize personnel at each site with the Cost Study, the basic types of cost collection involved, and the procedures and worksheets to be used by local PDC staffs as well as DA cost specialists. The cost instruments were developed and included in the manual, which was designed to serve as the backbone of the system and a ready resource for all involved.

TASK 5--Train DA Cost Specialist Staff

A three-day training program was held during August of 1975 for the DA staff members designated to install the system at the local sites. Training included protocol in dealing with personnel, the cost collection manual, sample training outlines to use on-site, and a review of grantee financial record-keeping systems.

TASK 6--Visit Sites for Orientation, Training and Implementation of the Cost System

During September and October of 1975, all sites were visited for the purpose of orientation, training, and implementation of the cost system. Training was held for all PDC staff with additional in-depth training for the cost data coordinator appointed by the local site.

TASK 7--Review of Quarterly Reporting

Sites are required to submit to DA for review, quarterly reports of staff time-utilization logs and donation records. The review identifies any potential problems at an early stage. The DA cost specialist reviews the forms submitted and responds promptly and in writing to the local sites.

TASK 8--Train DA Cost Data Specialists

Additional training for DA cost specialists was accomplished before they returned to the sites for actual collection of data for the first six months. The training involved detailing the procedures and types of cost collection and documentation being made by each site and explanations of how the cost specialists were to collect and consolidate the costs according to a standardized procedure. Additional training is scheduled before each field visit to inform staff of new developments since previous field visits.

TASK 9--Implement Cost Data Collection

DA conducted a trial of the data collection procedures in the first months of 1976. Each implementation visit to a site has two purposes. The first is to actually collect the program costs through a review of actual program expenditures and cost system records; the second is to perform on-site technical assistance in maintaining the system. The work flow chart shown in Figure 15 indicates what program records and DA cost report forms are used in these visits. This chart also shows how each of these fits into the total cost data collection process.

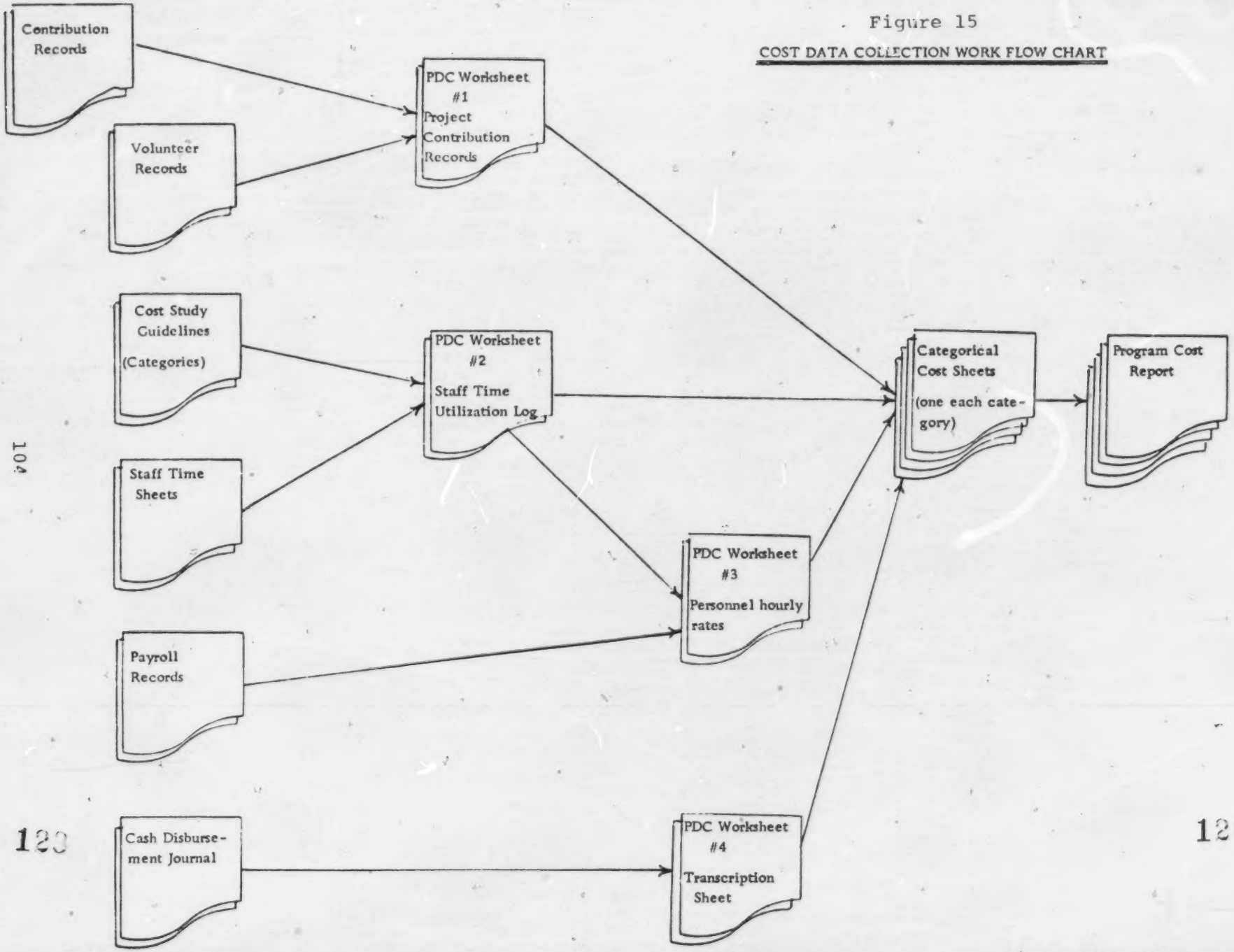
TASK 10--Review, Summarize, and Report Data

All cost data are returned to DA's Washington office for review, summarization, and reporting. The first full Cost Study report will be compiled from data covering the period July 1, 1975, to June 30, 1976 (Program Year II). The actual reporting to OCD will occur in November 1976. There will be a similar report for the data from Year III. The second report will also include data from the comparison Head Starts and elementary schools.

This concludes the discussion of approach and methodology to be used with the experimental program. Next, the methodology for the comparison schools and centers will be presented.

Figure 15

COST DATA COLLECTION WORK FLOW CHART


Contribution Records
Volunteer Records
PDC Worksheet #1 Project Contribution Records
Cost Study Guidelines (Categories)
PDC Worksheet #2 Staff Time Utilization Log
Staff Time Sheets
PDC Worksheet #3 Personnel hourly rates
Payroll Records
Cash Disbursement Journal
PDC Worksheet #4 Transcription Sheet
Categorical Cost Sheets (one each category)
Program Cost Report

## Comparison Sites Cost Study Approach and Methodology

The cost data collection during the third year of PDC (July 1976 to June 30, 1977) will be expanded to include the experimental and comparison elementary schools and Head Start centers. In determining the basis for the comparison study, the analysis carried out by DA pointed out the need for defining the objectives of the study, the issues, or problem areas to be treated, and the proposed methodology offered. These areas are discussed in detail below.

### Issues in the Comparison Cost Study

The objective of this part of the study is to determine how to appropriately cost-out the comparison group schools and centers on a comparative basis with the experimental schools and centers. Therefore, there is the need to clarify the key issues presented by comparison group costing and to develop an appropriate method of approaching the comparison group costing requirements. Three critical issues have been identified as particularly pertinent to this study: the absence of a comparison "program," lack of comparability across comparison sites, and the costing approach to be used.

Lack of a comparable program to PDC at comparison schools and centers. When money was provided to grantees by OCD for a PDC program, the grantees were required to create an organizational structure. This structure and budget facilitates the collection of cost data by PDC program components. PDC comparison group institutions do not have an organizational structure or budget process that is comparable to the PDC treatment institutions. Comparison group institutions engage in a variety of activities but do not have a program readily amenable to comparison with PDC. A review of the cost analysis literature indicates "in order to analyze the cost of an educational program, the first step is to define the program." The sequence of events begins with a description of what the program is, how the program works, and continues with a determination of the quantity of resources applied (i.e., personnel, supplies, equipment). These resources are then translated into an estimate of the program dollar costs" (Haggart, 1971). This suggests that before one can begin to assess costs in a comparison group institution, one must first determine the activity at that institution that could be compared to the PDC program at a treatment group institution. This means essentially categorizing cost information by PDC program components (i.e., handicapped, parent involvement, health, etc.). This approach is further detailed in the methodology section.

Limited ability for comparisons among comparison sites. In addition to the issue of comparing a comparison group to its treatment counterpart, there is also a second comparability issue: that of being able to make comparisons among comparison group institutions. The literature suggests that in order to compare one educational institution with another, a standard accounting or costing system must be used (Roberts and Lichtenberger, 1973). Since comparison group institutions do not account for PDC-type costs, much less a common approach, it will be difficult to obtain an end-product which compares cost data on comparison group institutions only on a dollar-for-dollar basis. The approach will have to combine a general discussion of program costs with the dollar comparisons.

The use of standard versus actual costs. Once the program elements at a comparison institution are defined, the question then raised is, "What costing approach is to be used?" Available literature points out two methods of costing out educational programs: the actual and the standard cost methods. The actual cost is that which the educational institution actually paid for the resources. This requires use of separate teacher salary schedules for each school district and specific price levels for individual equipment and supply costs. Thus, for the same resource, actual costs will vary from school to school depending on local salary levels and economic conditions. Standard costs, on the other hand, are based on national averages and eliminate local and regional variations in cost (Flynn, Dienemann and Al-Salam, undated).

The standard approach has at least one advantage. Given the limited participation of comparison institutions in the PDC study, the amount of time that staff from these institutions would be willing to devote to providing cost information would probably be minimal. A standard system would thus speak to the problem of limited staff time and data available to the evaluator.

However, the standard approach towards national evaluation also has some disadvantages. The literature describes at least three sets of variables that must be considered before entering into a standard cost analysis: the location variable, the type-of-community variable, and the type-of-school variable (Cohn, Hu, and Kaufman, 1972). The location variable deals with the fact that the general costs of living in one region of the country may be higher than those in other regions of the country. Thus, salary costs probably will be higher in the Northeast than in the Southeast. This is important because personnel costs represent a significant percentage of educational program costs. The type-of-community

variable means that comparison institutions are located in a variety of physical settings, including metropolitan, city, town, urban fringe and rural. As an example of the cost implications in these variations, a teacher in a PDC project in a large metropolitan area may earn more than three times as much as a teacher in a rural area in the Southwest. The type-of-school variable signifies that different schools may have different emphases based on the student population served. Therefore, a particular school might emphasize special education, biculturalism, counseling, part-day programs, or parent involvement. In essence, it is difficult to establish standard costs where there is no standard program.

## Proposed Methodology for Comparison Group Cost Study

To determine which elements of the control group's program are relevant and comparable to the cost data collected for the PDC treatment institutions, DA has developed a cost collection instrument. This instrument will be administered to pertinent comparison group staff at both the central administrative and individual school and center levels to determine what activities the comparison institution is carrying out in the component areas comprising PDC. Specific persons to be interviewed may include principals, federal project coordinators, educational support personnel, and educational specialists. The instrument will elicit information on the types of human and financial resources that are being invested in PDC-type activities. In addition, the instrument is designed to gain information on the actual cost for these resources. However, where actual costs are unavailable or difficult to determine, standard costs will be applied. Thus, actual costs of the treatment group in the same physical area will be used, where possible, as the standard costs for the comparison group in that location. If this proves unworkable, national cost norms will be established and applied across all programs.

The instrument to be used consists of seven sections--one section for each of the following components: handicapped; nutrition; social services; parent involvement; supplemental and specialized instruction; bilingual/bicultural; and medical/dental. These particular areas were chosen because they most closely reflect the emphasis of the PDC program. For each of these areas, appropriate staff will be interviewed to determine the activities the comparison group is carrying out (if any), how many actual dollars have been spent, and how many in-kind contributions have been received. Actual dollar costs will be broken down by personnel and other direct costs, while in-kind contributions will be broken down by the value of volunteer efforts and items donated.

To insure that comprehensive cost data are obtained for each of these seven components, the DA cost specialist will meet with the PDC project coordinator, and Head Start and public school representatives to determine which comparison group person(s) can provide the greatest amount of cost information on what the comparison group is doing in each of the designated areas. It is conceivable that more than one person will be interviewed for each of the components. Thus, to gather data on what a local school or center is doing in the area of bilingual/bicultural education, it may be necessary to administer a bilingual/bicultural cost collection form to a federal program coordinator at the school district level, the local school principal, and the local school bilingual/bicultural instructor.

Once appropriate people have been interviewed for all seven components, the cost data collected will be consolidated and summarized for each site. This summary will show how much each site is investing in each of the seven components. Data from this form can then be compared to the treatment PDC sites in the component areas.

To insure that a standardized approach is used in collecting comparison group cost data, it has been necessary to arrive at certain definitions that will be applied by DA cost specialists and understood by interviewees. In addition, these definitions must be consistent with the definitions used in performing the cost analysis for treatment group institutions so that data can be comparable. An example of this is the definition for in-kind contributions. For the treatment group, in-kind contributions have been defined as all non-PDC grant costs. That is, funds provided by local schools and other federal programs were considered to be in-kind contributions. However, for purposes of the comparison group, funds provided by local schools and federal programs for PDC-type activities represent direct costs and not in-kind contributions. In-kind contributions for comparison group institutions would more appropriately be the efforts of volunteers and the value of goods donated to PDC-type activities.

It should be understood that cost data from the comparison group institutions will of necessity be less detailed than data obtained from the institutions involved in PDC. Since these comparison group institutions do not keep financial data in the same way, and are not organized as the PDC institutions are, the collected data can only be discussed in general terms. Therefore, rather than presenting the

results in terms of dollars alone, it will be more significant to discuss the comparison groups' efforts in terms of patterns or trends. This will provide an indication of the areas of concentration or emphasis in one area or another and provide a more accurate comparison between the treatment and non-treatment groups. The chief value of cost data from the comparison Head Starts and schools will be that of providing information relative to program implementation that can be compared with implementation data from the PDC Head Starts and schools.

## Results of Trial Six-Month Data Collection

DA cost specialist staff visited each of the 14 sites between late January and early March 1976 to ascertain that the local data collection system was operating properly and to test out the data collection procedures DA had developed for use during the first year data collection. To accomplish the latter, DA cost specialists went through all of the procedures that would be followed during the summer of 1976 to collect cost data. These included a review and documentation of in-kind contributions to the program, a detailed record of how PDC program funds had been spent, and a review of the PDC staff time allocation form which shows how much staff time is spent in each of the program components. The results of the data collection and system review were brought back to DA for analysis. It is not the intent of this report to provide the detailed cost breakdowns that the system provides as outputs. That information will be provided in the November 1976 report of cost data covering the period July 1, 1975 to June 30, 1976. Rather, some basic data on actual expenditures by site for the first six months is included at the end of this section to illustrate the system.

First, however, some of the findings from the six-month data collection are examined in terms of the quality of the data; problems that have resulted and planned corrective actions are also discussed.

### Examination of Data

As reported above, all of the cost data collected were returned to the DA Washington, D.C. office for analysis. The quality of the data, though varying by type of site and data collected, was generally in line with the expectations of the cost system design staff. Data on actual PDC funds expended were easily available and accurate, because PDC funds are accounted for under normal procedures and accurately recorded to meet sound financial practices and federal requirements. Coding of these expenditures by program component was easily accomplished with the assistance of the PDC program staff. Most of the sites had voluntarily coded their vouchers by component. The only area of concern was that the procurement procedures of several of the larger grantees required up to four months to actually pay a voucher. This means that it is sometimes difficult to ascertain the exact amount expended for an item because the purchase order price may differ from the actual price paid. This should be less of a problem during

the summer 1976 data collection since most accounting departments will have made an effort to close their books before the site visit. Even if the problem continues, the actual differences in cost figures are slight and tend to balance out.

The staff time utilization log was filled out twice quarterly by the PDC staff members with few problems. At selected sites, DA cost specialists interviewed staff members to ascertain the accuracy of the data on the forms. The interviews showed that the charging of staff time to components is accurate and exceeds the expectations of the system design. Therefore, little additional effort will be expended in this area by DA cost staff.

The project contribution record of non-PDC donations was the biggest problem at local sites. This record form is to be completed for each component each month. For each donation, required information included the source, the fair market value, and the quantity. Because of the nature of the form, all PDC staff members working on a program component must report contributions to the site cost coordinator. This has caused some duplication of reporting, when the same item was reported under two different components. In addition, staff members are not always sure what should and should not be reported, resulting in either over- or under-reporting. There seems to be no ready solution to this problem, since potential donations to a program are endless and no amount of training or printed instructions will take into account every situation.

The problem of accurately reporting non-cash donations has plagued other Head Start-related cost studies. Standard record-keeping of donated goods and services cannot occur until these costs are treated like grant funds, necessitating the same devotion to standardized accounting procedures. To improve on the recording of donations, DA cost specialists have devoted considerable time since the trial data collection to tightening up the procedures for recording these costs. Clarifications of procedures were issued to site personnel and in some cases new definitions were developed to reduce error in charging donations to the proper component. In addition, DA cost specialists collecting data for the summer 1976 cost visits will be more specifically trained to determine allowability under the definitions established through the study. These improvements should reduce significantly the problems experienced during the trial data collection effort. As part of the final cost report for the first year, DA will present an update on non-cash donation recording along with further recommendations for improving accuracy or amending the study design.

Preliminary Six-Month Findings

For the first six-month data collection only PDC funds are reported. Table 2 shows the dollar value of all PDC expenditures by program component for the time period. This table indicates that most of the programs were expending funds at a rate that would be expected. There were several, however, which were not. With the absence of implementation data to provide explanations, one can only speculate that the programs spending much less than average might have had problems in getting underway. From this table, we also see that the components with the highest level of funds expended at the time of the data collection were Education and Administration, followed by Parent Involvement and Training. Developmental Support Services has been divided into three subcomponents for the purpose of display. These subcomponents are health, nutrition, and social services.

Table 3 shows the PDC expenditures for staff by program component and site. The allocation of funds for this chart is based on reports filled out by staff on the amount of their time spent working in each of the components for specified time periods. The staff expenditures include both salary and fringe benefits. The data show that most staff resources are allocated to the Education and Administration components. Table 4 shows PDC staff expenditures as a percentage of total PDC expenditures. This table shows that a large percentage of all PDC funds is being used to support staff. Finally, preliminary data show striking differences across sites in the cost per child of PDC funds. Table 5 shows that in Site C the amount of funds expended per child is almost $154 for the study period, while for Site N the amount is approximately one-seventh as much. The difference in the total number of PDC children at each site is the biggest factor here.

These findings are only illustrative, but do indicate the nature of the cost information that is being collected. The complete report of Year II program costs will present more extensive data for the entire 12-month period.

Table 2

TOTAL PDC EXPENDITURES BY PROGRAM COMPONENT AND SITE

FOR PERIOD JULY 1, 1976 TO DECEMBER 31, 1976

| SITES | Health Services | Nutritional Services | Social Services | Education | Parent Involvement | Services for Handicapped | Services for BL/BC | Administration | Training | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 2,183 | 591 | 1,591 | 19,768 | 11,363 | 3,765 | 4,459 | 13,518 | 10,933 | 68,171 |
| B | 8 | 35 | 954 | 9,540 | 485 | 55 | -0- | 14,422 | 1,823 | 27,322 |
| C | 1,522 | 380 | 1,005 | 19,229 | 3,119 | 3,694 | 1,370 | 14,749 | 182 | 45,250 |
| D | 4,103 | 1,803 | 5,766 | 15,291 | 8,581 | 801 | 299 | 15,616 | 11,317 | 63,577 |
| E | 7,245 | 1,090 | 7,660 | 8,302 | 2,021 | 2,069 | 171 | 13,096 | 1,245 | 42,899 |
| F | 1,547 | 449 | 3,221 | 8,970 | 5,961 | 970 | 2,823 | 12,772 | 873 | 37,586 |
| G | 1,689 | -0- | 1,763 | 9,669 | 2,401 | -0- | 4,360 | 12,223 | 4,702 | 36,807 |
| H | 2,727 | 1,878 | 1,316 | 26,081 | 2,066 | 702 | -0- | 10,566 | 2,588 | 47,924 |
| I | 1,775 | 283 | 914 | 18,766 | 2,161 | 3,021 | 1,280 | 8,677 | 3,383 | 40,260 |
| J | 1,269 | 11,252 | 4,644 | 4,280 | 7,217 | 544 | 2,141 | 20,277 | 306 | 52,174 |
| K | 3,000 | 1,549 | 322 | 13,612 | 5,615 | 265 | 2,276 | 13,898 | 5,094 | 45,631 |
| L | -0- | 228 | 4,364 | 29,931 | 50 | -0- | -0- | 11,773 | 2,069 | 48,415 |
| M | 334 | 369 | 528 | 16,731 | 881 | 306 | 934 | 9,550 | 1,178 | 30,811 |
| N | 598 | -0- | 5,317 | 671 | -0- | -0- | -0- | 13,315 | 5,170 | 25,071 |
| TOTALS | 28,000 | 20,007 | 39,385 | 200,841 | 51,921 | 16,192 | 20,113 | 184,452 | 50,863 | 611,674 |

## Table 3

PDC STAFF EXPENDITURES BY PROGRAM COMPONENT AND SITE

FOR PERIOD JULY 1, 1976 TO DECEMBER 31, 1976

| SITES | Health Services | Nutritional Services | Social Services | Education | Parent Involvement | Services for Handicapped | Services for BL/BC | Administration | Training | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 2,183 | 591 | 1,591 | 17,777 | 11,305 | 3,765 | 4,459 | 11,159 | 3,331 | 56,161 |
| B | -0- | -0- | 699 | 66 | 485 | 35 | -0- | 6,132 | -0- | 7,417 |
| C | 1,309 | 380 | 1,005 | 16,033 | 3,033 | 3,543 | 1,068 | 12,054 | 182 | 38,602 |
| D | 4,103 | 1,803 | 5,708 | 8,554 | 8,025 | 651 | 299 | 13,059 | 1,285 | 43,487 |
| E | 5,668 | 338 | 2,116 | 4,560 | 2,021 | 1,169 | 171 | 9,498 | 1,133 | 26,674 |
| F | 1,547 | 449 | 3,221 | 8,911 | 5,478 | 970 | 2,823 | 12,223 | 668 | 36,290 |
| G | -0- | -0- | 1,717 | 6,297 | 2,161 | -0- | 4,360 | 9,272 | 1,288 | 25,095 |
| H | 4,950 | 1,875 | 1,266 | 23,228 | 1,132 | 696 | -0- | 8,247 | 1,737 | 43,131 |
| I | 1,774 | 283 | 709 | 17,556 | 1,848 | 1,686 | 1,131 | 8,080 | 2,423 | 35,490 |
| J | 1,138 | 9,006 | 4,257 | 3,718 | 6,613 | 351 | 2,133 | 14,258 | 183 | 41,657 |
| K | 2,907 | 636 | 322 | 12,813 | 4,862 | 265 | 120 | 13,136 | 1,597 | 36,658 |
| L | -0- | -0- | 4,290 | 29,607 | -0- | -0- | -0- | 10,563 | 124 | 44,584 |
| M | 334 | 369 | 528 | 662 | 881 | 306 | 934 | 3,975 | 765 | 8,754 |
| N | -0- | -0- | 5,317 | -0- | -0- | -0- | -0- | 8,359 | 5,170 | 18,846 |
| TOTALS | 25,913 | 15,730 | 32,746 | 149,782 | 47,844 | 13,437 | 17,493 | 140,015 | 19,886 | 462,846 |

Table 4

PDC Staff Expenditure as a Percent of Total PDC Expenditures
For Period July 1, 1976 to December 31, 1976

| Site | PDC Staff Expenditure | Total PDC Expenditure | % Staff Expenditure |
|---|---|---|---|
| A | $ 56,161 | $ 68,171 | 82 |
| B | 7,417 | 27,322 | 27 |
| C | 38,602 | 45,250 | 85 |
| D | 43,487 | 63,577 | 68 |
| E | 26,674 | 42,899 | 62 |
| F | 36,290 | 37,586 | 97 |
| G | 25,095 | 36,807 | 68 |
| H | 43,131 | 47,924 | 90 |
| I | 35,490 | 40,260 | 88 |
| J | 41,657 | 52,174 | 80 |
| K | 36,658 | 45,631 | 80 |
| L | 44,584 | 48,415 | 92 |
| M | 8,574 | 30,811 | 28 |
| N | 18,846 | 25,071 | 75 |
| TOTALS | $ 462,846 | $ 611,674 | 76 |

Table 5

Cost Per Child of PDC Funds Expended
For Period July 1, 1976 to December 31, 1976

| Site | Number PDC Children | Cost Per Child PDC Funds |
|---|---|---|
| A | 983 | $ 69.35 |
| B | 450 | 60.71 |
| C | 294 | 153.91 |
| D | 524 | 121.33 |
| E | 501 | 85.62 |
| F | 347 | 108.31 |
| G | 300 | 122.69 |
| H | 345 | 138.91 |
| I | 1,058 | 38.05 |
| J | 465 | 112.20 |
| K | 299 | 152.61 |
| L | 376 | 128.76 |
| M | 333 | 92.52 |
| N | 1,102 | 22.75 |
| | 7,377 (Total) | $ 82.91 (Ave.) |

VI

# CONCLUSIONS

## Status of the Implementation Study

The Implementation Study has had three major tasks for Year II:

- Develop a method for assessing the degree to which sites have been able to implement PDC;
- Identify an initial list of factors which appear to be shaping that implementation; and
- Continue collecting data on the cost, nature and processes of programs' implementation.

The products from the first two tasks have been reported here; Year II program costs will be reported in fall 1976; actual descriptions of program implementation and Year III costs will be reported at the end of Year III.

The efforts to develop instruments for systematically assessing program implementation are progressing well. The spring field test of the interview and rating instruments at five sites revealed some difficulties with the procedures, but also showed that using the instruments, field teams were able to assess and analyze implementation with some rigor. The test also suggested several ways in which both the overall design and the instruments could be revised for Year III to make them both more effective and less burdensome on sites.

Analysis of sites' efforts to implement PDC also revealed that a small set of identifiable factors seems to have repeatedly and pervasively influenced local attempts to implement PDC. In general this analysis underscores what others have emphasized in the literature: any effort to introduce change into existing school programs is a complex and exceedingly difficult endeavor. PDC is trying to effect systemic changes in both Head Start and elementary schools. To succeed, the agents of this change must contend with, and capitalize upon, the existing regularities of the schools and communities; they must recognize that schools are cultures with complex patterns of behavior.

Some of the factors which seem to have either facilitated or impeded implementation have been identified here. While this list certainly is not exhaustive, it represents the salient factors shaping PDC locally. From this list, hypotheses have been formulated which relate specific factors to program implementation levels as measured by the IRI; these hypotheses will be evaluated systematically at all sites in the coming year. By way of summarizing the factors shaping Project Developmental Continuity (as well as for convenience of review) the factors and the hypotheses discussed in Chapter IV are listed as the final section of this chapter.

## Status of The Cost Study

The development of instruments for the Cost Study was completed and data collection begun at the beginning of the 1975-76 fiscal year. Preliminary data from the first six months of program operation were reported to provide an indication of the distribution of resources across program components. In discussing a proposed methodology for the study of costs at comparison institutions, the difficulty of obtaining comparable data was pointed out. If a closer examination of the nature of available cost data and cost-accounting systems shows the problems to be insurmountable, the nature and purpose of the comparison group cost study can be modified. It may be that general information related to program implementation could be collected from the comparison Head Starts and schools that would be more useful than imprecise cost data.

## Implementation Hypotheses to be Evaluated in Year III

### The Nature and Interpretation of the PDC Guidelines

*Sites at which the T&TA field specialist monitors implementation of the guidelines and facilitates local interpretation of general guideline requirements will have higher implementation levels in all component areas.*

*Sites which adopted a plan in the first two months of Year II for sequential implementation of PDC requirements will have higher implementation levels overall than those which attempted to achieve full implementation immediately.*

*Sites which purchased and adapted existing program models and approaches (e.g., curricula, diagnostic systems, management systems) will have higher levels of implementation in all component areas.*

### The Educational and Community Context

*Implementation of the PDC guidelines will be higher at sites located outside of major metropolitan areas (less than 100,000 population).*

- Prior Head Start-elementary relationships

*Sites with a history of joint Head Start and elementary school administration by the school district will have higher levels of implementation than sites at which Head Start and elementary programs have been administered separately.*

*Sites where participating Head Start and elementary school programs have historically been housed in the same building will have higher levels of implementation than those where the two programs have been housed separately.*

*Sites where the continuity of educational experiences has been stressed from Head Start classes through grade three will have higher implementation levels in all areas than sites where such continuity has not been stressed.*

- **Pre-existing priorities, policies, laws, and programs**

*Sites with pre-existing or concurrent philosophies, legislation or programs similar to those required by PDC will have higher implementation in the component areas involved.*

*Sites where a high number of existing community resources are available will have higher implementation in the developmental support services and training components.*

*Sites at which there are no teacher unions or associations which regulate the activities of teachers will have higher implementation than sites with such unions or associations.*

- **Demographic and socio-cultural features of the local community**

*Sites with a high concentration of the target populations in the PDC schools (Head Start children in elementary classes; handicapped children; speakers of a language other than English) will have higher implementation in the components involved.*

*Sites with a greater number of bilingual/bicultural or minority persons in positions of authority within the school district (e.g., principals, supervisors, etc.) will have higher implementation of the bilingual/bicultural and/or multicultural components.*

*Sites with a lower proportion of employed mothers or single-parent homes will have higher implementation in the component areas involved.*

*Sites where minority ethnic groups are actively seeking to maintain their own language and/or cultural traditions will have higher implementation in the bilingual/bicultural and/or multicultural components.*

## Circumstances and Events Surrounding Introduction of PDC

- **Participation in initial decisions**

*Sites where school district officials, principals, and Head Start and elementary school teachers were involved in initial decisions about the nature and content of proposals for PDC funding will have higher implementation levels in all component areas.*

- **Designation of the delegate agency**

*Sites where the local school district is the delegate agency for PDC will have higher implementation levels in all component areas.*

- **The planning process**

*Sites at which teachers, pc ents, and administrators were involved in the planning year activities will have higher implementation levels in all component areas.*

*Sites at which the planning of the PDC program began early in the planning year will have higher levels of implementation than sites where such planning began later.*

*Sites at which a higher number of PDC planning tasks were completed during the planning year will have higher levels of implementation in the component areas involved.*

## Staffing Characteristics

- **Selection procedures**

*Sites with formal selection/recruitment procedures for PDC teachers will have the highest levels of implementation in all component areas.*

*Sites where teachers could opt for or against participating within the PDC program while still remaining in the school will have slightly lower levels of implementation in all component areas.*

*Sites where teachers were given the choice of participating in PDC or transferring to another school will have lower levels of implementation in all component areas.*

*Sites where teachers were given no option as to participating in PDC will have the lowest levels of implementation in all component areas.*

- Backgrounds of staff, teachers, and principals

*Sites at which key staff have had previous experience successfully implementing programs of educational change will have higher implementation levels in all component areas.*

*Sites with key staff members drawn from and familiar with the local community will have higher implementation levels in all component areas.*

*Sites with key staff members with extensive experience and technical skill in the various guideline areas (e.g., special education, bilingual education) will have higher implementation levels in the components involved.*

*Sites with teaching staffs with the fewest mean years of teaching experience will have higher implementation levels in all classroom-related component areas.*

*Sites with the most teachers experienced in instructional approaches analogous to those of PDC will have the highest implementation levels in all classroom-related component areas.*

- Continuity of PDC staffing

*Sites at which there has been a continuity of staffing will have higher implementation levels than sites at which staff have been replaced.*

Features of Program Organization

- Lines of authority

*Sites at which the PDC coordinator has formally defined positions of authority within the organizational structures of the Head Start and elementary programs will have higher levels of implementation in all component areas. Implementation will be especially high in the education, bilingual/bicultural, and handicapped areas.*

*Sites at which the PDC program and staff enjoy the full and active support of district officials, the elementary school principal, and the Head Start director will have higher implementation levels in all component areas.*

- Division of labor and responsibilities

*Sites at which the implementation of each component is assigned to a particular individual will have higher implementation in the components so assigned.*

*Sites at which no single individual is responsible for the implementation of more than two components will have higher implementation in the component areas so assigned.*

*The greater the number of individuals involved in the planning of component implementation strategies, the higher will be the implementation levels in those component areas.*

*Sites at which a specific individual is responsible for the implementation of a given component at both the Head Start and elementary levels will have higher implementation in the component areas so assigned.*

- Lines of communication

*Sites at which procedures for frequent and regular communication between all participating groups have been formally established will have higher implementation in all component areas.*

## The Role of OCD and the Evaluation Contractor

*The more teachers, children, classrooms, and schools participating in PDC, the lower will be the levels of implementation in all component areas.*

## REFERENCES


Agnew, P. C., & Hsu, F. L. K. Introducing change in a mental hospital. Human Organization, Winter 1960, 19(4), pp. 195-198.

Anderson, R. H. The organization and administration of team teaching. In J. T. Shaplin & H. P. Olds, Team teaching. New York: Harper and Row, 1964. (Ch. 6)

Argyle, M. The social psychology of social change. In T. Burns & S. Saul (Eds.), Social theory and economic change. London: Tavistock Publications, 1967. (Pp. 87-101)

Bennis, W. Changing organizations. New York: McGraw-Hill, 1966.

Bentzen, M., & Tye, K. Effecting change in elementary schools. In The 72nd Yearbook of the National Society for the Study of Education, Part II: The elementary school in the United States. Chicago: University of Chicago Press, 1973. (Pp. 350-379)

Bidwell, C. The school as a formal organization. In J. March (Ed.), Handbook of organizations. Chicago: Rand McNally, 1965. (Pp. 972-1022)

Cohn, E., Hu, T. W., & Kaufmann, J. J. Costs of vocational and nonvocational programs: A study of Michigan secondary schools. University Park, Pa: Pennsylvania State University, Institute of Research on Human Resources, 1972.

Flynn, D. L., Dienemann, P. F., & Al-Salam, N. A. Resource approach to program cost analysis. (Undated mimeo)

Gale, R. D. The administrative role in initiating a nongraded school. In R. I. Miller (Ed.), The nongraded school. New York: Harper and Row, 1967. (Pp. 16-28)

Goodlad, J. I., & Anderson, R. H. The nongraded elementary school (Rev. ed.). New York: Harcourt, Brace & World, 1963.

Griffiths, D. Administrative theory and change in organizations. In M. Miles (Ed.), Innovation in education. New York: Teachers College, Columbia University, 1964. (Pp. 425-436)

Gross, N., Giacquinta, J., & Bernstein, M. Implementing organizational change - a sociological analysis of planned educational change. New York: Basic Books, 1971.

Haggart, S. Program cost analysis in educational planning. Paper presented at the National Conference on Performance Contracting in Education, December 9, 1971.

Havelock, R. The change agent's guide to innovation in education. Englewood Cliffs: Educational Technology Publications, 1973.

Havelock, R., in collaboration with Guskin, A., Frohman, M., Havelock, M., Hill, M., & Huber, J. Planning for innovation through dissemination and utilization of knowledge. Ann Arbor: Institute for Social Research, University of Michigan, 1971.

Jones, J. An elementary school under conditions of planned change. In W. Charters et al, The process of planned change in the school's instructional organization. Eugene: Center for the Advanced Study of Educational Administration, University of Oregon, 1973. (Pp. 53-65)

Lieberman, A., & Shiman, D. A. The stages of change in elementary school settings. In C. M. Culver & G. J. Hoban (Eds.), The power to change: Issues for the innovative educator. New York: McGraw Hill, 1973.

Novotney, J. The integration of education and leadership. In C. M. Culver & G. J. Hoban (Eds.), The power to change: Issues for the innovative educator. New York: McGraw Hill, 1973. (Pp. 11-24)

Oliver, A. I. Curriculum improvement. New York: Dodd, Mead, 1965.

Peterson, C. H. Effective team teaching. West Nyack, N.Y.: Parker Publishing Company, 1966.

Reynolds, L. Teacher adaption to planned change. In W. Charters et al, The process of planned change in the school's instructional organization. Eugene: Center for the Advanced Study of Educational Administration, University of Oregon, 1973. (Pp. 67-84)

Sarason, S. The culture of the school and the problem of change. Boston: Allyn & Bacon, 1971.

Watson, G. Resistance to change. In W. Bennis, K. Benne, & R. Chin (Eds.), The planning of change. New York: Holt, Rinehart & Winston, 1969. (Pp. 488-498)

Wigren, H. E. The process of change in educational television. In R. I. Miller (Ed.), Perspectives on educational change. New York: Appleton-Century-Crofts, 1967.

APPENDIX A
(Bound Separately)

Implementation Rating Instrument

# APPENDIX B

## Proposed Definitions for Terms Used in the IRI

## Proposed Definitions for Terms Used in the IRI

*The definitions below are proposed for use with the IRI in Year III of PDC. Unless otherwise noted all definitions were generated by the contractor or subcontractor.*[1]

1. ACADEMIC YEAR

   The time period beginning when teachers begin working for a new school year and ending when teachers complete their employment for the school year.

2. AIDES AND ASSOCIATES

   Paid personnel working in the classroom under the supervision of a teacher.

3. ASSESSMENT OF THE NUTRITIONAL NEEDS OF CHILDREN

   "can be identified on the basis of their health records (height, weight, and hemoglobin or hematocrit) and information supplied by parents."*

4. DIAGNOSTIC AND EVALUATIVE SYSTEM

   A system that "should facilitate individualized instruction by enabling the teacher to pinpoint the developmental level of each child in the various curriculum areas."*

5. HEAD START CENTER COMMITTEE

   The committee, operating by OCD requirements, that is made up of all parents of Head Start children at the Head Start center level.

6. INDIVIDUALIZED INSTRUCTIONAL APPROACH

   An approach that facilitates "individualized instruction by enabling the teacher to pinpoint the developmental level of each child in the various curriculum areas. The teacher should then develop an instructional program for each child based upon the child's diagnosed strengths and weaknesses."*

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[1]Asterisks indicate definitions taken directly from the PDC Guidelines.

7. INTERNAL ASSESSMENT SYSTEM

"Formal or informal, whereby staff, parents, and Council members continually examine their own and the project's progress in providing continuity in the educational and developmental elements. It might include refresher sessions in the philosophy and goals of PDC and in the principals of child growth and development and their relation to the intellectual and affective development of children. Such sessions should ensure the educational approach and curriculum and their own teaching in the light of these goals and principles. Exchange visits between Head Start and school teachers and parents might also be included so that they can assess the commonality and continuity of approach."*

8. JOINT CONFERENCES, MEETINGS AND/OR WORKSHOPS

Joint means between Head Start and elementary teaching staff. The purpose of these meetings is to maintain joint communication according the program guidelines.

9. MAJOR ROLE

Indicates that a person or group had concentrated involvement and participation in an activity. Participation in decision-making was frequent. The end result of the activity reflects the input of the person or group. In the case of a group, a large portion of the group participated.

10. MEMBER OF GROUP

A person officially serving on a group and appearing on the roster of that group. Excludes persons who occasionally attend at their own "whim."

11. MINOR ROLE

Indicates that a person or group had minimal involvement and participation in an activity. Participation in decision-making was irregular or almost nonexistent. The end result of the activity reflects little or almost none of the input from the person or group. In the case of a group, only a few persons participated.

12. MODERATE ROLE

Indicates that a person or group had some involvement and participation in an activity. Participation in decision-making was regular by not exceptional. The end result of the activity reflects only some of the input of the person or group. In the case of a group, a significant but no exceptional portion of the group participated.

13. PARENTS

The natural, or adopted parents of a PDC child or the legal guardians of a child, or the adults in a household responsible for the child. When computing percentages, assume one parent per child.

14. PROVISION FOR REGULAR COMMUNICATION

In this context, communication means meetings, and written documents.

15. SUPPLEMENTAL FUNDING

In this context, funding other than that provided by OCD directly for PDC activities.

16. TIMETABLE

A schedule of the times activities or events are to occur.

17. TRAINING

Deliberate instruction in order to make a person more proficient in an area related to the PDC program. A training activity is distinguished from a meeting in that the principal purpose of the gathering is the increase of skill proficiency and not just the imparting of program related information

18. WORKSHOPS, CLASSES AND OTHER ACTIVITIES FOR PARENTS

Any activity that has as an overt purpose the attendance of parents and is related to the PDC work programs.